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Volume VIII
Part 20

INTEGRATED INFORMATION SUPPORT SYSTEM (IISS)
Volume VIII - User Interface Subsystem
Part 20 - Forms Driven Forms Editor Product Specification

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FOREWORD

This technical report covers work performed under Air Force Contract F33600-87-C-0464, DAPro Project. This contract is sponsored by the Manufacturing Technology Directorate, Air Force Systems Command, Wright-Patterson Air Force Base, Ohio. It was administered under the technical direction of Mr. Bruce A. Rasmussen, Branch Chief, Integration Technology Division, Manufacturing Technology Directorate, through Mr. David L. Judson, Project Manager. The Prime Contractor was Integration Technology Services, Software Programs Division, of the Control Data Corporation, Dayton, Ohio, under the direction of Mr. W. A. Osborne. The DAPro Project Manager for Control Data Corporation was Mr. Jimmy P. Maxwell.

The DAPro project was created to continue the development, test, and demonstration of the Integrated Information Support System (IISS). The IISS technology work comprises enhancements to IISS software and the establishment and operation of IISS test bed hardware and communications for developers and users.

The following list names the Control Data Corporation subcontractors and their contributing activities:

SUBCONTRACTOR	ROLE
Control Data Corporation	Responsible for the overall Common Data Model design development and implementation, IISS integration and test, and technology transfer of IISS.
D. Appleton Company	Responsible for providing software information services for the Common Data Model and IDEF1X integration methodology.
ONTEK	Responsible for defining and testing a representative integrated system base in Artificial Intelligence techniques to establish fitness for use.
Simpact Corporation	Responsible for Communication development.
Structural Dynamics Research Corporation	Responsible for User Interfaces, Virtual Terminal Interface,and Network Transaction Manager design, development, implementation, and support.
Arizona State University	Responsible for test bed operations and support.

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SCOPE

1.1 Identification

This specification establishes the detailed design of a computer program identified as the Forms Driven Form Editor, hereinafter referred to as FDFE. The FDFE is one configuration item of the Integrated Information Support System (IISS) User Interface (UI).

1.2 Functional Summary

The FDFE is a software tool for creating and initializing form definitions. The FDFE displays a series of screens which request information from the user and visually show the form under construction. Once a form has been completed, the FDFE stores the form definition constructs needed to recreate the form. The stored form can be selected and modified.

The runtime UI or UIMS views the FDFE, which is part of the UIDS, as an application program which uses the Form Processor. Data to be selected or stored comes from or is passed to the Common Data Model (CDM) in the integrated implementation; otherwise, a file system is used. The FDFE also interacts with the Forms Language Compiler (FLAN) to translate between the forms language source and the compiled form definition.

The FDFE is a C program which makes extensive use of form language sources and compiled forms, performs interactive user input/output via the Form Processor (FP), and uses the FP to manage the compiled forms. The internal form data structure is the same as that used by the Form Processor.

SECTION 2

DOCUMENTS

2.1 Reference Documents

[1] Structural Dynamics Research Corporation, Application Interface Product Specification, PS 620144700 , 1 November 1985.

[2] Structural Dynamics Research Corporation, Forms Language Compiler Product Specification, PS 620144401 , 1 November 1985.

[3] Structural Dynamics Research Corporation, Form Processor Product Specification, PS 620144200 , 1 November 1985.

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[7] Structural Dynamics Research Corporation, User Interface Services Product Specification, PS 620144100 , 1 November 1985.

[8] Structural Dynamics Research Corporation, Virtual Terminal Product Specification, PS 620144300 , 1 November 1985.

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[19] THE PSYCHOLOGY OF HUMAN-COMPUTER INTERACTION, S. K. Card, T. P. Moran and A. Newell, Lawrence Erlbaum Associates, Inc. (1983).

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[21] General Electric Co., System Design Specification, 7 February 1983.

2.2 Terms and Abbreviations

American Standard Code for Information Interchange: (ASCII), the character set defined by ANSI X3.4 and used by most computer vendors.

Application Interface: (AI), subset of the IISS User Interface that consists of the callable routines that are linked with applications that use the Form Processor or Virtual Terminal. The AI enables applications to be hosted on computers other than the host of the User Interface.

Application Process: (AP), a cohesive unit of software that can be initiated as a unit to perform some function or functions.

Attribute: field characteristic such as blinking, highlighted, black, etc. and various other combinations. Background attributes are defined for forms or windows only. Foreground attributes are defined for items. Attributes may be permanent, i.e., they remain the same unless changed by the application program, or they may be temporary, i.e., they remain in effect until the window is redisplayed.

Device Drivers: (DD), software modules written to handle I/O for a specific kind of terminal. The modules map terminal specific commands and data to a neutral format. Device Drivers are part of the UI Virtual Terminal.

Display List: is similar to the open list, except that it contains only those forms that have been added to the screen and are currently displayed on the screen.

Extended Binary Coded Decimal Interchange Code: (EBCDIC), the character set used by a few computer vendors (notably IBM) instead of ASCII.

Field: two dimensional space on a terminal screen.

Form: structured view which may be imposed on windows or other forms. A form is composed of fields. These fields may be defined as forms, items, and windows.

Form Definition: (FD), forms definition language after compilation. It is read at runtime by the Form Processor.

Forms Definition Language: (FDL), the language in which electronic forms are defined.

Forms Driven Form Editor: (FDFE), subset of the FE which consists of a forms driven application used to create Form Definition files interactively.

Form Editor: (FE), subset of the IISS User Interface that is used to create definitions of forms. The FE consists of the Forms Driven Form Editor and the Forms Language Compiler.

Form Hierarchy: a graphic representation of the way in which forms, items and windows are related to their parent form.

Forms Language Compiler: (FLAN), subset of the FE that consists of a batch process that accepts a series of forms definition language statements and produces form definition files as output.

Form Processor: (FP), subset of the IISS User Interface that consists of a set of callable execution time routines available to an application program for form processing.

Form Processor Text Editor: (FPTE), subset of the Form Processor that consists of software modules that provide text editing capabilities to all users of applications that use the Form Processor.

IISS Function Screen: the first screen that is displayed after logon. It allows the user to specify the function he wants to access and the device type and device name on which he is working.

Integrated Information Support System: (IISS), a test computing environment used to investigate, demonstrate and test the concepts of information management and information integration in the context of Aerospace Manufacturing. The IISS addresses the problems of integration of data resident on heterogeneous data bases supported by heterogeneous computers interconnected via a Local Area Network.

Item: non-decomposable area of a form in which hard-coded descriptive text may be placed and the only defined areas where user data may be input/output.

Message: descriptive text which may be returned in the standard message line on the terminal screen. They are used to warn of errors or provide other user information.

Message Line: a line on the terminal screen that is used to display messgaes.

Network Transaction Manager: (NTM), IISS subsystem that performs the coordination, communication and housekeeping functions required to integrate the Application Processes and System Services resident on the various hosts into a cohesive system.

Open List: a list of all the forms that have been and are currently open for an application process.

Operating System: (OS), software supplied with a computer which allows it to supervise its own operations and manage access to hardware facilities such as memory and peripherals.

Page: instance of forms in windows that are created whenever a form is added to a window.

Paging and Scrolling: a method which allows a form to contain more data than can be displayed with provisions for viewing any portion of the data buffer.

Physical Device: a hardware terminal.

Qualified Name: the name of a form, item or window preceded by the hierarchy path so that it is uniquely identified.

Subform: a form that is used within another form.

User Data: data which is either input by the user or output by the application programs to items.

User Interface: (UI), IISS subsystem that controls the user's terminal and interfaces with the rest of the system. The UI consists of two major subsystems: the User Interface Development System (UIDS) and the User Interface Management System (UIMS).

User Interface Development System: (UIDS), collection of IISS User Interface subsystems that are used by applications programmers as they develop IISS applications. The UIDS includes the Form Editor and the Application Generator.

User Interface Management System: (UIMS), the runtime UI. It consists of the Form Processor, Virtual Terminal, Application Interface, the User Interface Services and the Text Editor.

User Interface Monitor: (UIM), part of the Form Processor that handles messaging between the NTM and the UI. It also provides authorization checks and initiates applications.

User Interface Services: (UIS), subset of the IISS User Interface that consists of a package of routines that aid users in controlling their environment. It includes message management, change password, and application definition services.

User Interface/Virtual Terminal Interface: (UI/VTI), another name for the User Interface.

Virtual Terminal: (VT), subset of the IISS User Interface that performs the interfacing between different terminals and the UI. This is done by defining a specific set of terminal features and protocols which must be supported by the UI software which constitutes the virtual terminal definition. Specific terminals are then mapped against the virtual terminal software by specific software modules written for each type of real terminal supported.

Window: dynamic area of a terminal screen on which predefined forms may be placed at run time.

Window Manager: a facility which allows the following to be manipulated: size and location of windows, the device on which an application is running, the position of a form within a window. It is part of the Form Processor.

SECTION 3

REQUIREMENTS

3.1 Structural Description

The general approach is to view the FDFE as a hierarchy of modules. The FDFE screens presented in the appendix are associated with only certain modules in the hierarchy based on the functionality being performed by the module.

3.1.1 Module Hierarchy

The following hierarchy chart shows the organization of the FDFE:

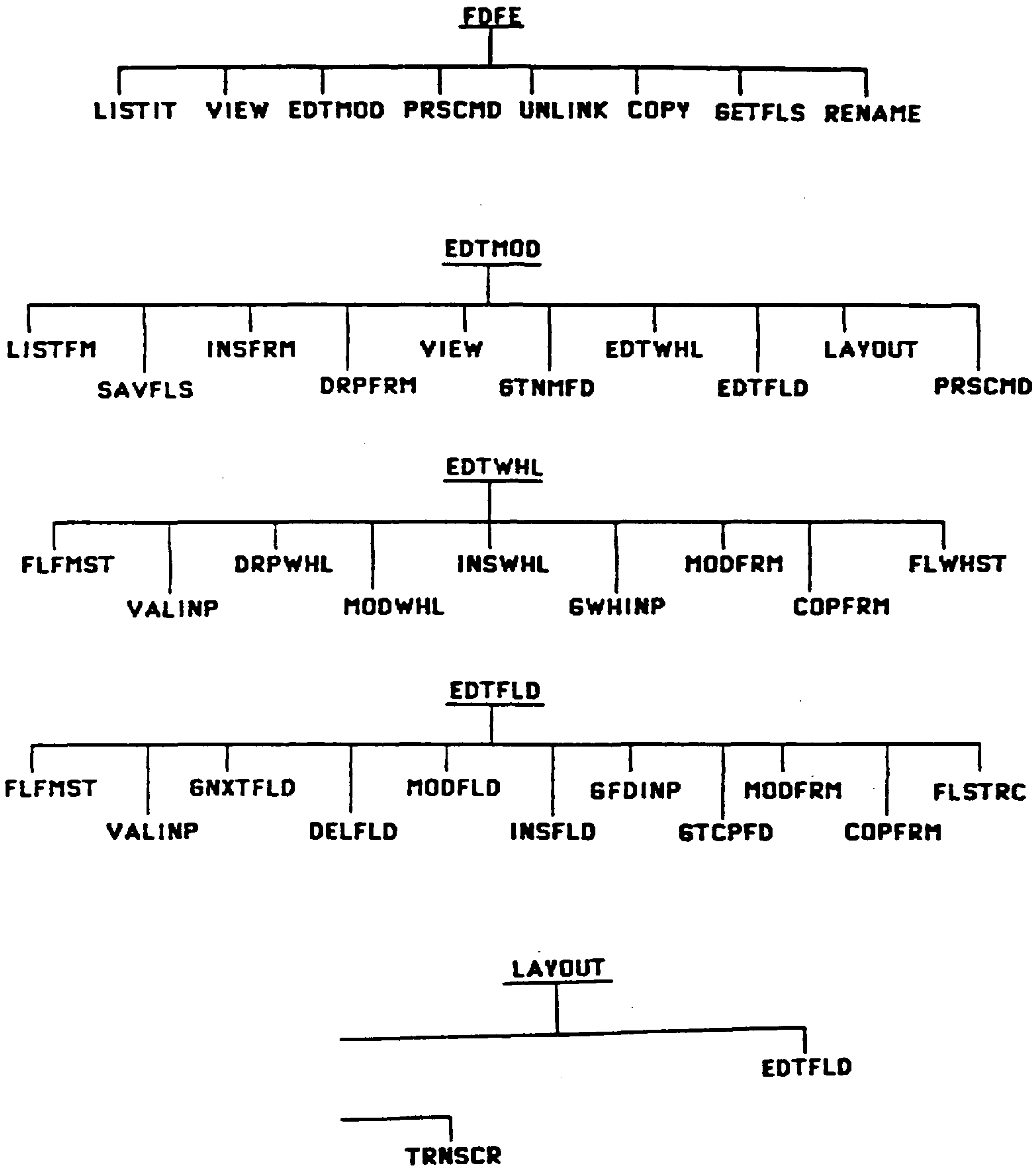

Figure 3-1 FDFE Hierarchy Charts

3.1.2 Module Descriptions

The following paragraphs describe the modules associated with each of the major sections of the FDFE.

3.1.2.1 FDFE:

This module is the main driver. It allows the user to choose among several file management options or to proceed to the edit task level. It controls the WRKTASK screen.

Input Parameters:
None
Output Parameters:
None

3.1.2.2 PRSCMD:

This module parses the command line for both the WRKTASK and EDTTASK screens to determine which other modules are to be called and what parameters are to be passed.

Input Parameters:
Pointer to command line
Array of parameter counts
Array of pointers to valid commands
Output Parameters:
Option chosen
Pointer to parameters to be passed to the module which will execute the option.
Number of parameters found in command line

3.1.2.3 LISTIT:

This module lists all of the Forms Definition Object or Forms Language Source in the user's specified forms language source or definition object libraries.

Input Parameters:
Pointer to "FDL" or "FD" string
Output Parameters:
Returns any error code or a NULL pointer if successful

3.1.2.4 VIEW:

This module displays a form just as it would appear on the screen when used by a program.

Input Parameters:
Pointer to name of form to view
Output Parameters:
Returns any error code or a NULL pointer if successful

3.1.2.5 FORMS LANGUAGE SOURCE ACCESS MODULES:

o UNLINK:

This module drops a particular Forms Language Source.

Input Parameters:
Name of Forms Language Source
Output Parameters:
Returns any error code or a NULL pointer if successful

o COPY:

This module copies a particular Forms Language Source to another Forms Language Source of specified name.

Input Parameters:
Name of existing "from" Forms Language Source
Name of new or "to" Forms Language Source
Output Parameters:
Returns any error code or a NULL pointer if successful

o RENAME:

This module renames a particular Forms Language Source to a specified name.

Input Parameters:
Name of existing Forms Language Source
New name of Forms Language Source
Output Parameters:
Returns any error code or a NULL pointer if successful

o GETFLS:

This module retrieves a particular Forms Language Source and translates it into the internal data structure.

Input Parameters:
  Name of existing Forms Language Source
Output Parameters:
  Pointer to the "opened" form, the internal Forms Processor data structure

o SAVFLS:

This module saves a particular Forms Language Source (fdl file) and a Forms Definition Object (fd file) after it translates the internal data structure into forms language syntax.

Input Parameters:
  Name of the form to be saved under flag indicating to write or not to write out the fd file
  Pointer to list of forms to be written out
Output Parameters:
  Returns any error code or a NULL pointer if successful

3.1.2.6 EDTMOD:

This module is the control module for all edit tasks. It controls the EDTTASK screen.

Input Parameters:
  New/old form flag
  Change/retrieve only flag
Output Parameters:
  Returns any error code or a NULL pointer if successful

3.1.2.7 LISTFM:

This module lists all forms in the Forms Language Source on which work is being done.

Input Parameters:
  None
Output Parameters:
  Returns any error codes or NULL pointer if successful

3.1.2.8 INSFRM:

This module inserts a new form into the Forms Language Source on which work is being done.

Input Parameters:
  name of form
Output Parameters:
  Returns any error code or NULL pointer if successful

3.1.2.9 DRPFRM:

This module deletes a form from the Forms Language Source on which work is being done.

Input Parameters:
  Name of form
Output Parameters:
  Returns any error codes or NULL pointer if successful

3.1.2.10 EDTWHL:

This module allows the user to edit an entire form at once. It controls the presentation of the FORM EDIT screen.

Input Parameters:
  Read-only flag
  Name of form
Output Parameters:
  Returns any error code or NULL pointer if successful

3.1.2.11 EDTFLD:

This module allows the user to edit all fields of a form one at a time. It controls the presentation of the FIELD EDIT screen. It is also called from LAYOUT.

Input Parameters:
  Read-only flag
  col cursor position if coming from layout mode
  row cursor position if coming from layout mode
  pointer to internal form structure
  edit mode
Output Parameters:
  Returns any error code or NULL pointer if successful

3.1.2.12 LAYOUT:

This module allows the user to edit an entire form as it would appear when used (with regards to the location and size of fields) on one screen. The other needed information is filled in on the LAYOUT DESCRIPTION screen.

Input Parameters:
  Pointer to internal form structure
  Read-only fla
Output Parameters:
  Returns any error code or NULL pointer if successful

3.1.2.13 SCRMAN:

This module controls the first stage of layout edit mode - it manages the screen using the following three modules to translate internal structure to screen layout and vice versa.

Input Parameters:
  Read-only flag
  pointer to internal form structure
Output Parameters:
  Row position returned from GETCUR
  Col position returned from GETCUR

3.1.2.14 CHGPOS:

This module allows the user to change the location of a field in layout mode by indicating the "from" and "to" locations on the screen.

Input Parameters:
  pointer to internal form structure
Output Parameters:
  Returns any error code or NULL pointer if successful

3.1.2.15 TRNSCR:

This module translates the layout screen format to internal structure.

Input Parameters:
  Pointer to internal form structure
Output Parameters:
  Returns any error code or NULL pointer if successful

3.1.2.16 TRNSTR:

This module translates the internal structure to the layout screen format.

Input Parameters:
  Pointer to internal form structure
  Read only flag
Output Parameters:
  None

3.1.2.17 VALINP:

This module performs validation checks on fields. The objects to be validated are the values input on the FIELD EDIT and FORM EDIT screens.

Input Parameters:
  Pointer to form to be validated
  Pointer to field to be validated
  Flag indicating type of validation
Output Parameters:
  Returns TRUE if validation okay else returns FALSE

3.1.2.18 GTNMFD:

This module retrieves fields from the internal structure.

Input Parameters:
  Pointer to 1st field in internal structure
  Name of field to find
Output Parameters:
  Pointer to field in the internal structure or NULL if could not find field

3.1.2.19 MODFLD:

This module modifies a field in the internal structure.

Input Parameters:
  Pointer to parent of field
  Pointer to pointer of field being modified
  Pointer to screen changed information
  Pointer to screen help info

Pointer to screen value info
Pointer to screen item info
Output Parameters:
Returns any error code or NULL pointer if successful

3.1.2.20 DELFLD:

This module deletes a field from the internal structure. This is the same function as that used by the Form Processor.

3.1.2.21 INSFLD:

This module inserts a field into the internal structure.

Input Parameters:
Address of pointer to field being inserted
Address where next field pointer will be inserted
Address where previous field pointer will be inserted
Pointer to parent of field
Pointer to screen field information
Pointer to screen help info
Pointer to screen value info
Pointer to screen item info
Recursion level
Output Parameters:
Returns any error code or NULL pointer if successful

3.1.2.22 COPFRM:

This module copies a Forms Language Source file into an alternate internal data structure and gets the pointer to the specified form.

Input Parameters:
Name of Forms Language Source file to copy from
Name of form to copy
Output Parameters:
Sets global variables:
Copyfls, name of Forms Language Source just copied
Copyfrm, name of form just copied
Altbuf, beginning of list containing all forms of Forms Language Source
Altfrm, pointer to form user wishes to copy

3.1.2.23 MODFRM:

This module updates information about the form.

Input Parameters:
Pointer to form internal structure
Pointer to screen form information
Output Parameters:
Returns any error code or NULL pointer if successful

3.1.2.24 FLFMST:

This module translates an FPD field structure for a form into the screen information structure.

Input Parameters:
Pointer to screen structure
Pointer to fpd form field
Output Parameters:
None

3.1.2.25 FLSTRC:

This module translates the FPD field structure to screen information structure for items, windows, and forms.

Input Parameters:
Pointer to fpd field
Pointer to screen field structure
Pointer to screen item help structure
Pointer to screen item value structure
Pointer to screen field domain check structure
Output Parameters:
Fills appropriate screen area with field information

3.1.2.26 FLWHST:

This module fills in the output screen FORM EDIT, and associates each field line on the output screen with the field's internal structure.

Input Parameters:
Pointer to form internal structure on which editing is to occur.

Output Parameters:
Fills output screen FORM EDIT area with form and field info and creates an external array of pointers

3.1.2.27 GWHINP:

This module gets all input for the FORM EDIT screen for the fields on +he form being edited.

Input Parameters:
Pointer to form internal structure
Output Parameters:
PF key provided by OISCR
Returns any error code or NULL pointer if successful

3.1.2.28 GTCPFD:

This module gets the field at the located cursor position.

Input Parameters:
Pointer to form internal structure
Row cursor position
Col cursor position
Output Parameters:
Pointer to field at that location else
NULL if no field found

3.1.2.29 DRPWHL:

This module deletes all fields marked by the user on the FORM EDIT screen.

Input Parameters:
Pointer to internal form structure
Output Parameters:
PF key received by OISCR

3.1.2.30 MODWHI·

This module modifies existing fields as input by the user on the FORM EDIT screen.

Input Parameters:
Pointer to parent of field
Pointer to field being modified
Pointer to input screen structure
Pointer to help line on screen

Pointer to item value on screen
Pointer to item only info on screen
Output Parameters:
Returns any error code or NULL pointer if successful

3.1.2.31 INSWHL:

This module inserts all fields that have been entered on the FORM EDIT screen.

Input Parameters:
Pointer to form internal structure
Output Parameters:
Returns any error code or NULL pointer if successful

3.2 Functional Flow

Figure 3-2 is a data flow for the Forms Driven Form Editor.

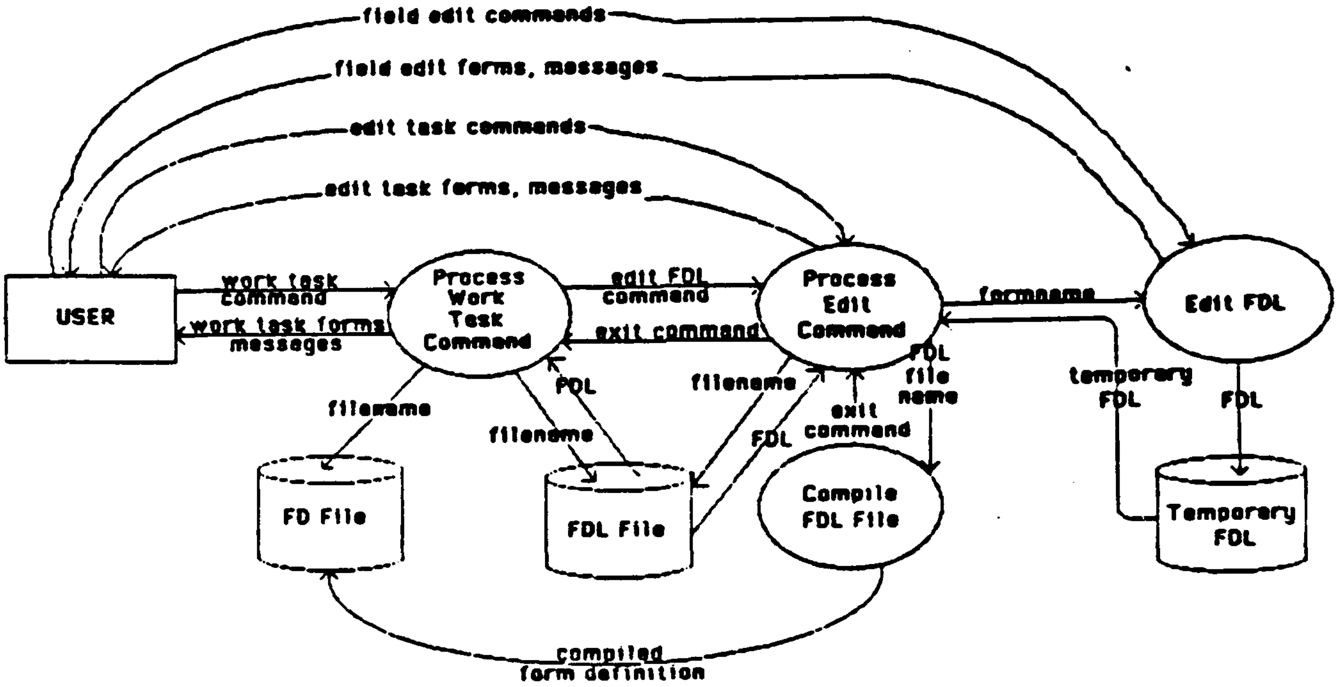

Figure 3-2 FDFE Data Flow

3.3 Interfaces

The FDFE interfaces directly with users as an IISS application. Physical terminals are assumed to have video display, a textual keyboard, four cursor positioning keys or key sequences, a help key or key sequence, an entry key, and four other keys to be used by the FDFE for special processing. The FDFE must interface with the AI, FLAN, and the operating system.

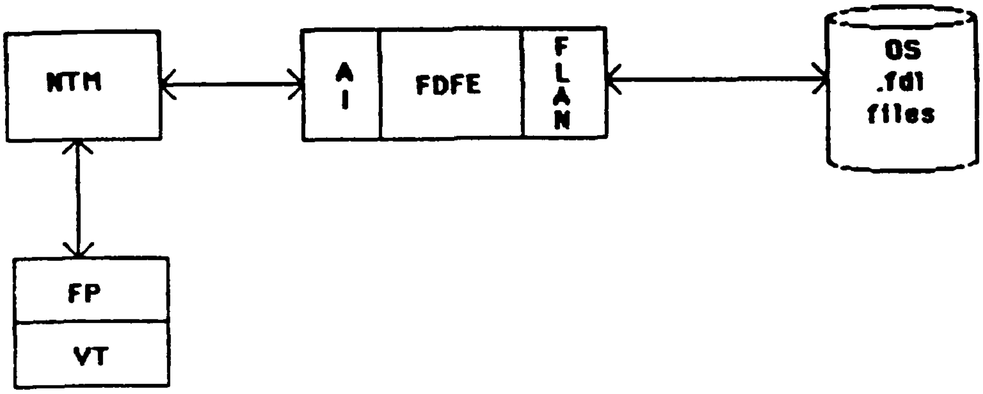

Figure 3-3 FDFE Interface Diagram

3.3.1 Application Interface

The FDFE interacts with users by calling appropriate routines of the Application Interface (AI). This interface creates messages which are sent to the Form Processor which moves information describing interactive terminal input and output and provides a link to users of the FDFE through the Virtual Terminal.

3.3.2 Forms Language Compiler

The FDFE uses the Forms Language Complier (FLAN) to convert forms language source into the Form Processor internal forms structure. The FDFE also invokes the FLAN when the form under construction is to be stored.

3.3.3 Operating System

The FDFE stores form language source files (fdl files on the VAX) and compiled form definitions (fd files on the VAX). Form language source files may subsequently be compiled and displayed. The storage of the fdl files and fd files is system dependent. The VAX implementation uses the logicals IISSSLIB (for fdl files) to store/retrieve the files in/from the appropriate directory.

3.4 Program Interrupts

This section does not apply to the detailed design of the Forms Driven Form Editor.

3.5 Timing and Sequencing Description

The data flow diagram in section 3.2 and the detail design description in section 3.10 contain the procedural information for sequencing and control logic.

3.6 Special Control Features

The detailed design of the FDFE does not include any special control features as defined in the ICAM Documentation Standards manual.

3.7 Storage Allocation

The Forms Driven Form Editor executable is 351 blocks.

3.7.1 Data Base Definition

3.7.1.1 File Descriptions

1. FILE NAME: name.FDL - Form Definition Language file.

   PURPOSE: This file contains the language description of one or more forms. Compiling this file produces Form Definition files.

   DECLARATION:

   ```
   char line [132];
   ```

2. FILE NAME: name.TMP - Temporary FDL file.

   PURPOSE: This file contains the language description of one or more forms. It is created during an editing session from the FDFE's internal data structure. If this file compiles successfully, it is renamed to an FDL file, otherwise it remains so that the user can correct errors and recompile it.

   DECLARATION:

```
char line [132];
```

3. FILE NAME: formname.FD - Form Definition file. A complete description of the Form Definition file which is a binary file is contained in Appendix B of the Forms Language Compiler Development Specification (DS 620144401B). The name of this file is dependent upon the form it describes.

   PURPOSE: This file contains information about the structure and attributes of a form that is used at run time by the Form Processor.

   DECLARATION:

```
typedef struct      /* version number record */
   {
   char rectyp;     /* '1' */
   int  vernum;     /* current version number (2) */
   char linefeed;
   } VERREC;

typedef struct      /* form record */
   {
   char  form_name[10];   /* form name */
   char  background[10];  /* background name */
   short row;             /* starting row */
   short col;             /* starting col */
   short width;           /* width */
   short depth;           /* depth */
   short n_txtflds;       /* number of text fields */
   short n_datflds;       /* number of data fields */
   short s_txtbuf;        /* size of the text buffer */
   short s_defbuf;        /* size of the default buffer */
   char  linefeed;
   } FRMREC;
```

```
typedef struct      /* text record */
   {
   short row;       /* starting row */
   short col;       /* starting col */
   short len;       /* total length */
   char  linefeed;
   } TXTREC;

typedef struct      /* field record */
   {
   char  fld_name[10];   /* field name */
   char  fld_type;       /* field type (F, I, W, A) */
   short row;            /* starting row */
   short col;            /* starting col */
   short width;          /* field width */
   short depth;          /* field depth */
   int   min_value;      /* minimum value (if any) */
   int   max_value;      /* maximum value (if any) */
   char  helpline[80];   /* help text */
   char  disp_att[10];   /* display attribute */
   short n_formats;      /* number of formats */
   char  format[12][2];  /* format strings */
   short n_arydefs;      /* number of dimensions */
   struct      /* dimension specification */
      {
      char  dir;         /* repeat direction (H, V) */
      short cnt;         /* actual repeat count */
      short sp;          /* number of spaces between
                            repetitions */
      short dsp_size;    /* display repeat count */
      } array_def[3];
   char  linefeed;
   } FLDREC;

typedef struct {         /* run time relative positioning
                            info */
   POS posnod;
   NAME mynam, hnam, vnam;
   } RELREC;
```

3.8 Object Code Creation

The FDFE routines were compiled using a C compiler developed by Interactive Software under VAX/VMS.

3.9 Adaptation Data

The C source modules for the FDFE can be compiled using any UNIX version 7 compatible C compiler. The files FPDINI.H and GETFLS.C contain file names for the Form Definition and Form Definition Language files which may not port to systems other than VAX/VMS.

3.10 Detailed Design Description

3.10.1 Main Program List

The following is a list of all "Main Programs" which are modules that are not called by any other module being documented here. These modules are either program entry points or, if they are hooked into another set of programs via subroutine calls, they are the points the external programs can call and therefore enter through. To differentiate between the two types of entry points, look at the individual Module Documentation (section 3.10.8) and look at Module Type for each of the Main Program modules listed. Note whether the routine is a Program, Subroutine, or Function. If it is a Program, it is truly a main program entry point. If not, then it is merely called by other programs not being documented here.

FORMS DRIVEN FORM EDITOR Main Program List

Module Name	Purpose
CHKFLD	CHECK FIELD
CHKFRM	CHECK FORM
CSTASH	CHARACTER STASH
FDFE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
MAKINT	MAKE EXPRESSION INTO AN INTEGER
MAKSTR	MAKE EXPRESSION INTO A STRING
MKPOS	MAKE POSITION NODE
VALINP/CCKVAL	CHECK VALUE

3.10.2 Module List

The following is a list of all the modules being documented here along with their purpose. Each module has a unique name, no matter what language it was written in.

FORMS DRIVEN FORM EDITOR Module List

Module Name	Purpose
ADDCHK	ADD POSITION TO CHECK LIST
ADDEXT	ADD EXTENSION TO FILE_NAME
CHKARY	CHECK ARRAY
CHKFLD	CHECK FIELD
CHKFRM	CHECK FORM
CHKPRM	CHECK PARAMETER
CPYFRM	COPY FORM
CSTASH	CHARACTER STASH
DRPFRM	DROP FORM
DRPWHL	DROP WHOLE
EDTFLD	EDIT FIELD
EDTMOD	EDIT MODE
EDTWHL	EDIT WHOLE
ERROR	ISSUE ERROR MESSAGE
EXPAND	EXPAND AN ARRAY
EXPAND/FIXFRM	FIX UP A FORM
FATAL	ISSUE FATAL ERROR MESSAGE
FDFE	FORMS DRIVEN FORM EDITOR
FDFE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
FIFDST	FILL IN FIELD STRUCTURE

FORMS DRIVEN FORM EDITOR Module List

Module Name	Purpose
FLANCI	FLAN CALLABLE INTERFACE
FLDTYP	FIELD TYPE
FLFMST	FIELD TO FORM STRUCTURE TRANSLATION
FLSTRC	FIELD STRUCTURE TRANSLATION
FLWHST	FILL WHOLE STRUCTURE
FNDATT	FIND ATTRIBUTE
FREBUF	FREE BUFFER
GETFLS	GET FDL SOURCE FILE
GETFLS/TREEXP	TREE EXPRESSION
GETLEN	GET LENGTH
GFDINP	GET FIELD INPUT
GFLDPT	GET FIELD POINTER
GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
GNXTFD	GET NEXT FIELD
GNXTFD/NXTFLD	NEXT FIELD
GTCPFD	GET USING CURSOR POSITION FIELD
GTFDTX	GET FIELD TEXT
GTFDTX/GTXINF	GET TEXT INFORMATION
GTNMFD	GET NAMED FIELD
GWHINP	GET WHOLE INPUT
INSFLD	INSERT FIELD

FORMS DRIVEN FORM EDITOR Module List

Module Name	Purpose
INSFRM	INSERT FORM
INSWHL	INSERT WHOLE
LAYOUT	LAYOUT MODE
LISTFM	LIST FORMS
LISTIT	LIST IT
MAKINT	MAKE EXPRESSION INTO AN INTEGER
MAKSTR	MAKE EXPRESSION INTO A STRING
MKPOS	MAKE POSITION NODE
MODFLD	MODIFY FIELD
MODFRM	MODIFY FORM
MODFRM/FRETXT	FREE TEXT
MODWHL	MODIFY WHOLE
MYALLOC	MY MALLOC
PRCFIL	PROCESS TEMPORARY FILE
PREC	PRECEDENCE
PRSCMD	PARSE COMMAND
PUTERR	PUT ERROR
SAVFLS	SAVE FDL SOURCE
SCRMAN	SCREEN MANAGER
SCRMAN/CHGPOS	CHANG POSITION
SCRMAN/GETROW	GET ROW

FORMS DRIVEN FORM EDITOR Module List

Module Name	Purpose
TRNSCR	TRANSLATE SCREEN TO STRUCTURE
TRNSCR/FLCST	FILL LOCATION STRUCTURE
TRNSCR/FRLCST	FREE LOCATION STRUCTURES
TRNSCR/GTFMPMT	GET FORM PROMPT INFORMATION
TRNSCR/GTPINF	GET PROMPT INFORMATION
TRNSCR/LDPMINF	LOAD PROMPT INFORMATION
TRNSCR/MTCHPMT	MATCH PROMPT WITH FIELD
TRNSCR/PARSCRN	PARSE SCREEN DATA
TRNSCR/SPSYMB	SPECIAL SYMBOL CHECK
TRNSTR	TRANSLATE STRUCTURE TO SCREEN
TRNSTR/FLFLD	FILL FIELD
TRNSTR/FLPRMPT	FILL PROMPT
TRNSTR/GARINF	GET ARRAY INFORMATION
VALINP	VALIDATE INPUT
VALINP/CCKFLD	CHECK FIELD
VALINP/CCKFRM	CHECK FORM
VALINP/CCKHLP	CHECK HELP
VALINP/CCKITM	CHECK ITEM
VALINP/CCKNAM	CHECK NAME
VALINP/CCKPRM	CHECK PROMPT
VALINP/CCKRSV	CHECK FOR RESERVED WORD

FORMS DRIVEN FORM EDITOR Module List

Module Name	Purpose
VALINP/CCKVAL	CHECK VALUE
VIEW	VIEW A FORM
WARNING	ISSUE WARNING MESSAGE
WRTEXP	WRITE EXPRESSION
WRTFDL	WRITE FDL FILE
WRTFDL/ARYREF	ARRAY REFERENCE

3.10.3 External Routines List

The following is a list of all routines or functions not documented here that are called by modules that are documented here. The first caller, in alphabetical order, is listed as well. The specification in which any module is documented may be found in the Module Documentation Index (Document Number CM 620100001). See section 3.10.6 for a list of the modules that call each of these external routines.

FORMS DRIVEN FORM EDITOR External Routines List

Module Name	First User
ABORT	VALINP
ABS	SCRMAN/CHGPOS
ACCESS	FDFE
ADDFRM	FDFE
ATOI	VALINP/CCKITM
BLEN	WRTFDL
CLSFRM	VIEW
COPFLD	EXPAND
COPY	FDFE
DELFLD	EXPAND/FIXFRM
ESCPY	VALINP/CCKITM
FCLOSE	GETFLS
FEOF	LISTIT
FERROR	PRCFIL
FGETS	PRCFIL
FOPEN	SAVFLS
FPRINTF	WRTFDL
FREE	TRNSCR/FRLCST
GATDEF	FIFDST
GDATA	GWHINP
GETCUR	SCRMAN
GWINDO	VIEW
INITAL	FDFE/MAIN
INITFP	FDFE/MAIN
ISALPHA	VALINP/CCKFLD
ISSPACE	TRNSCR/GTPINF
MAKFLD	INSFLD
MALLOC	MYALLOC
MATOI	VALINP/CCKFLD
MAX	CHKFLD
MEMCMP	VALINP
MEMCPY	GWHINP
MEMDGT	GITMD
MEMSET	PRSCMD
MIN	VALINP/CCKFLD
MITOA	TRNSCR
MKTEMP	LISTIT
OISCR	SCRMAN
PDATA	LISTIT
PMSGLC	SCRMAN
PMSGLS	LISTFM

FORMS DRIVEN FORM EDITOR External Routines List

Module Name	First User
PUTATT	EDTFLD
PUTCUR	PUTERR
RENAME	SAVFLS
REWIND	SAVFLS
RMVPAG	LISTIT
RSVATT	EXPAND/FIXFRM
SPRINTF	VALINP/CCKNAM
STRASN	CHKARY
STRCAT	SAVFLS
STRCHR	VALINP/CCKFRM
STRCMP	VALINP/CCKFLD
STRCPY	LISTIT
STRLEN	FDFE
STRNCMP	PRSCMD
STRNCPY	PRSCMD
STRRCHR	SCRMAN/GETROW
STRSPN	VALINP/CCKHLP
STRUPC	VALINP/CCKHLP
SYSMSG	VIEW
SYSTEM	LISTIT
TERMFP	FDFE/MAIN
TRMNAT	FDFE/MAIN
UNLINK	FDFE
WRTFRM	SAVFLS
YYPARSE	FLANCI

3.10.4 Include File List

The following is a list of all include files called in by modules being documented here. Each include file has a unique name regardless of the language being used. The purpose of each include file is listed as well. A more complete description of each include file is given in section 3.10.9. The purpose listed is the one that is in the source code of the include file.

A purpose of "**** PURPOSE NOT FOUND BY STRIPPER ****" indicates that a purpose statement was not written into the include file itself. The most common reason for this is that the include file comes from system libraries that were not developed by the project, such as 'C' libraries that are provided with the 'C' compiler.

See section 3.10.6 for a set of lists which show all the modules which call in each of these include files.

FORMS DRIVEN FORM EDITOR Include File List

File Name	Purpose
CTYPE	**** PURPOSE NOT FOUND BY STRIPPER ****
FDFE	FDFE DATA STRUCTURES
FDFEFM	FDFE FORM DEFINITIONS
FDFEINI	FDFE INITIALIZATIONS
FPCODE	FORM PROCESSOR RETURN CODES
FPD	FORM PROCESSOR DATA
FPDINI	FPD INITIALIZATION
FPPARM	FORM PROCESSOR PARAMETERS
NTM	NTM INTERFACE INCLUDE FILE
RW	REPORT WRITER DEFINITIONS
STDIO	**** PURPOSE NOT FOUND BY STRIPPER ****
STDTYP	STANDARD TYPE DEFINITIONS

3.10.5 Where Include File Used List

The following lists each include file from 3.10.4 and all the modules documented in this specification which include them. The purpose of each module is listed as well.

FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File	Module Name	Module Purpose
CTYPE		
	EDTFLD	EDIT FIELD
	GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
	PUTERR	PUT ERROR
	TRNSCR	TRANSLATE SCREEN TO STRUCTURE
	TRNSCR/FL	FILL LOCATION STRUCTURE
	TRNSCR/FR	FREE LOCATION STRUCTURES
	TRNSCR/GT	GET FORM PROMPT INFORMATION
	TRNSCR/GT	GET PROMPT INFORMATION
	TRNSCR/LD	LOAD PROMPT INFORMATION
	TRNSCR/MT	MATCH PROMPT WITH FIELD
	TRNSCR/PA	PARSE SCREEN DATA
	TRNSCR/SP	SPECIAL SYMBOL CHECK
	VALINP	VALIDATE INPUT
	VALINP/CC	CHECK FIELD
	VALINP/CC	CHECK FORM
	VALINP/CC	CHECK HELP
	VALINP/CC	CHECK ITEM
	VALINP/CC	CHECK NAME
	VALINP/CC	CHECK PROMPT
	VALINP/CC	CHECK FOR RESERVED WORD
	VALINP/CC	CHECK VALUE
FDFE		
	ADDEXT	ADD EXTENSION TO FILE_NAME
	CHKPRM	CHECK PARAMETER
	CPYFRM	COPY FORM
	DRPFRM	DROP FORM
	DRPWHL	DROP WHOLE
	EDTFLD	EDIT FIELD
	EDTMOD	EDIT MODE
	EDTWHL	EDIT WHOLE
	FDFE	FORMS DRIVEN FORM EDITOR
	FDFE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
	FLFMST	FIELD TO FORM STRUCTURE TRANSLATION
	FLSTRC	FIELD STRUCTURE TRANSLATION

FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File	Module Name	Module Purpose
	FLWHST	FILL WHOLE STRUCTURE
	FREBUF	FREE BUFFER
	GETFLS	GET FDL SOURCE FILE
	GETFLS/TR	TREE EXPRESSION
	GFDINP	GET FIELD INPUT
	GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
	GNXTFD	GET NEXT FIELD
	GNXTFD/NX	NEXT FIELD
	GTFDTX	GET FIELD TEXT
	GTFDTX/GT	GET TEXT INFORMATION
	GTNMFD	GET NAMED FIELD
	GWHINP	GET WHOLE INPUT
	INSFLD	INSERT FIELD
	INSFRM	INSERT FORM
	INSWHL	INSERT WHOLE
	LAYOUT	LAYOUT MODE
	LISTFM	LIST FORMS
	LISTIT	LIST IT
	MODFLD	MODIFY FIELD
	MODFRM	MODIFY FORM
	MODFRM/FR	FREE TEXT
	MODWHL	MODIFY WHOLE
	PRCFIL	PROCESS TEMPORARY FILE
	PRSCMD	PARSE COMMAND
	PUTERR	PUT ERROR
	SCRMAN	SCREEN MANAGER
	SCRMAN/CH	CHANG POSITION
	SCRMAN/GE	GET ROW
	TRNSCR	TRANSLATE SCREEN TO STRUCTURE
	TRNSCR/FL	FILL LOCATION STRUCTURE
	TRNSCR/FR	FREE LOCATION STRUCTURES
	TRNSCR/GT	GET FORM PROMPT INFORMATION
	TRNSCR/GT	GET PROMPT INFORMATION
	TRNSCR/LD	LOAD PROMPT INFORMATION
	TRNSCR/MT	MATCH PROMPT WITH FIELD
	TRNSCR/PA	PARSE SCREEN DATA
	TRNSCR/SP	SPECIAL SYMBOL CHECK
	TRNSTR	TRANSLATE STRUCTURE TO SCREEN
	TRNSTR/FL	FILL FIELD
	TRNSTR/FL	FILL PROMPT

FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File	Module Name	Module Purpose
	TRNSTR/GA	GET ARRAY INFORMATION
	VALINP	VALIDATE INPUT
	VALINP/CC	CHECK FIELD
	VALINP/CC	CHECK FORM
	VALINP/CC	CHECK HELP
	VALINP/CC	CHECK ITEM
	VALINP/CC	CHECK NAME
	VALINP/CC	CHECK PROMPT
	VALINP/CC	CHECK FOR RESERVED WORD
	VALINP/CC	CHECK VALUE
	VIEW	VIEW A FORM
FDFEFM		
	ADDEXT	ADD EXTENSION TO FILE_NAME
	CHKPRM	CHECK PARAMETER
	CPYFRM	COPY FORM
	DRPFRM	DROP FORM
	DRPWHL	DROP WHOLE
	EDTFLD	EDIT FIELD
	EDTMOD	EDIT MODE
	EDTWHL	EDIT WHOLE
	FDFE	FORMS DRIVEN FORM EDITOR
	FDFE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
	FLFMST	FIELD TO FORM STRUCTURE TRANSLATION
	FLSTRC	FIELD STRUCTURE TRANSLATION
	FLWHST	FILL WHOLE STRUCTURE
	FREBUF	FREE BUFFER
	GETFLS	GET FDL SOURCE FILE
	GETFLS/TR	TREE EXPRESSION
	GFDINP	GET FIELD INPUT
	GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
	GNXTFD	GET NEXT FIELD
	GNXTFD/NX	NEXT FIELD
	GTFDTX	GET FIELD TEXT
	GTFDTX/GT	GET TEXT INFORMATION
	GTNMFD	GET NAMED FIELD

FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File	Module Name	Module Purpose
	GWHINP	GET WHOLE INPUT
	INSFLD	INSERT FIELD
	INSFRM	INSERT FORM
	INSWHL	INSERT WHOLE
	LAYOUT	LAYOUT MODE
	LISTFM	LIST FORMS
	LISTIT	LIST IT
	MODFLD	MODIFY FIELD
	MODFRM	MODIFY FORM
	MODFRM/FR	FREE TEXT
	MODWHL	MODIFY WHOLE
	PRCFIL	PROCESS TEMPORARY FILE
	PRSCMD	PARSE COMMAND
	PUTERR	PUT ERROR
	SCRMAN	SCREEN MANAGER
	SCRMAN/CH	CHANG POSITION
	SCRMAN/GE	GET ROW
	TRNSCR	TRANSLATE SCREEN TO STRUCTURE
	TRNSCR/FL	FILL LOCATION STRUCTURE
	TRNSCR/FR	FREE LOCATION STRUCTURES
	TRNSCR/GT	GET FORM PROMPT INFORMATION
	TRNSCR/GT	GET PROMPT INFORMATION
	TRNSCR/LD	LOAD PROMPT INFORMATION
	TRNSCR/MT	MATCH PROMPT WITH FIELD
	TRNSCR/PA	PARSE SCREEN DATA
	TRNSCR/SP	SPECIAL SYMBOL CHECK
	TRNSTR	TRANSLATE STRUCTURE TO SCREEN
	TRNSTR/FL	FILL FIELD
	TRNSTR/FL	FILL PROMPT
	TRNSTR/GA	GET ARRAY INFORMATION
	VALINP	VALIDATE INPUT
	VALINP/CC	CHECK FIELD
	VALINP/CC	CHECK FORM
	VALINP/CC	CHECK HELP
	VALINP/CC	CHECK ITEM
	VALINP/CC	CHECK NAME
	VALINP/CC	CHECK PROMPT
	VALINP/CC	CHECK FOR RESERVED WORD
	VALINP/CC	CHECK VALUE
	VIEW	VIEW A FORM

FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File	Module Name	Module Purpose
FDFEINI		
	FDFE	FORMS DRIVEN FORM EDITOR
	FDFE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
FPCODE		
	ADDCHK	ADD POSITION TO CHECK LIST
	CHKARY	CHECK ARRAY
	CHKFLD	CHECK FIELD
	CHKFRM	CHECK FORM
	CPYFRM	COPY FORM
	CSTASH	CHARACTER STASH
	DRPFRM	DROP FORM
	DRPWHL	DROP WHOLE
	EDTFLD	EDIT FIELD
	EDTMOD	EDIT MODE
	EDTWHL	EDIT WHOLE
	EXPAND	EXPAND AN ARRAY
	EXPAND/FI	FIX UP A FORM
	FDFE	FORMS DRIVEN FORM EDITOR
	FDFE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
	FLANCI	FLAN CALLABLE INTERFACE
	FLDTYP	FIELD TYPE
	FNDATT	FIND ATTRIBUTE
	GETFLS	GET FDL SOURCE FILE
	GETFLS/TR	TREE EXPRESSION
	GFDINP	GET FIELD INPUT
	GFLDPT	GET FIELD POINTER
	GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
	GNXTFD	GET NEXT FIELD
	GNXTFD/NX	NEXT FIELD
	GTFDTX	GET FIELD TEXT

FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File	Module Name	Module Purpose
	GTFDTX/GT	GET TEXT INFORMATION
	GWHINP	GET WHOLE INPUT
	INSFLD	INSERT FIELD
	INSFRM	INSERT FORM
	INSWHL	INSERT WHOLE
	LAYOUT	LAYOUT MODE
	LISTFM	LIST FORMS
	LISTIT	LIST IT
	MAKINT	MAKE EXPRESSION INTO AN INTEGER
	MAKSTR	MAKE EXPRESSION INTO A STRING
	MKPOS	MAKE POSITION NODE
	MODFLD	MODIFY FIELD
	MODFRM	MODIFY FORM
	MODFRM/FR	FREE TEXT
	MODWHL	MODIFY WHOLE
	MYALLOC	MY MALLOC
	PRCFIL	PROCESS TEMPORARY FILE
	PUTERR	PUT ERROR
	SAVFLS	SAVE FDL SOURCE
	SCRMAN	SCREEN MANAGER
	SCRMAN/CH	CHANG POSITION
	SCRMAN/GE	GET ROW
	TRNSCR	TRANSLATE SCREEN TO STRUCTURE
	TRNSCR/FL	FILL LOCATION STRUCTURE
	TRNSCR/FR	FREE LOCATION STRUCTURES
	TRNSCR/GT	GET FORM PROMPT INFORMATION
	TRNSCR/GT	GET PROMPT INFORMATION
	TRNSCR/LD	LOAD PROMPT INFORMATION
	TRNSCR/MT	MATCH PROMPT WITH FIELD
	TRNSCR/PA	PARSE SCREEN DATA
	TRNSCR/SP	SPECIAL SYMBOL CHECK
	TRNSTR	TRANSLATE STRUCTURE TO SCREEN
	TRNSTR/FL	FILL FIELD
	TRNSTR/FL	FILL PROMPT
	TRNSTR/GA	GET ARRAY INFORMATION
	VALINP	VALIDATE INPUT
	VALINP/CC	CHECK FIELD
	VALINP/CC	CHECK FORM
	VALINP/CC	CHECK HELP
	VALINP/CC	CHECK ITEM

FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File	Module Name	Module Purpose
	VALINP/CC	CHECK NAME
	VALINP/CC	CHECK PROMPT
	VALINP/CC	CHECK FOR RESERVED WORD
	VALINP/CC	CHECK VALUE
	VIEW	VIEW A FORM
	WRTEXP	WRITE EXPRESSION
FPD		
	ADDCHK	ADD POSITION TO CHECK LIST
	ADDEXT	ADD EXTENSION TO FILE_NAME
	CHKARY	CHECK ARRAY
	CHKFLD	CHECK FIELD
	CHKFRM	CHECK FORM
	CHKPRM	CHECK PARAMETER
	CPYFRM	COPY FORM
	CSTASH	CHARACTER STASH
	DRPFRM	DROP FORM
	DRPWHL	DROP WHOLE
	EDTFLD	EDIT FIELD
	EDTMOD	EDIT MODE
	EDTWHL	EDIT WHOLE
	EXPAND	EXPAND AN ARRAY
	EXPAND/FI	FIX UP A FORM
	FDFE	FORMS DRIVEN FORM EDITOR
	FDFE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
	FIFDST	FILL IN FIELD STRUCTURE
	FLANCI	FLAN CALLABLE INTERFACE
	FLDTYP	FIELD TYPE
	FLFMST	FIELD TO FORM STRUCTURE TRANSLATION
	FLSTRC	FIELD STRUCTURE TRANSLATION
	FLWHST	FILL WHOLE STRUCTURE
	FNDATT	FIND ATTRIBUTE
	FREBUF	FREE BUFFER
	GETFLS	GET FDL SOURCE FILE
	GETFLS/TR	TREE EXPRESSION
	GFDINP	GET FIELD INPUT

FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File	Module Name	Module Purpose
	GFLDPT	GET FIELD POINTER
	GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
	GNXTFD	GET NEXT FIELD
	GNXTFD/NX	NEXT FIELD
	GTCPFD	GET USING CURSOR POSITION FIELD
	GTFDTX	GET FIELD TEXT
	GTFDTX/GT	GET TEXT INFORMATION
	GTNMFD	GET NAMED FIELD
	GWHINP	GET WHOLE INPUT
	INSFLD	INSERT FIELD
	INSFRM	INSERT FORM
	INSWHL	INSERT WHOLE
	LAYOUT	LAYOUT MODE
	LISTFM	LIST FORMS
	LISTIT	LIST IT
	MAKINT	MAKE EXPRESSION INTO AN INTEGER
	MAKSTR	MAKE EXPRESSION INTO A STRING
	MKPOS	MAKE POSITION NODE
	MODFLD	MODIFY FIELD
	MODFRM	MODIFY FORM
	MODFRM/FR	FREE TEXT
	MODWHL	MODIFY WHOLE
	MYALLOC	MY MALLOC
	PRCFIL	PROCESS TEMPORARY FILE
	PREC	PRECEDENCE
	PRSCMD	PARSE COMMAND
	PUTERR	PUT ERROR
	SAVFLS	SAVE FDL SOURCE
	SCRMAN	SCREEN MANAGER
	SCRMAN/CH	CHANG POSITION
	SCRMAN/GE	GET ROW
	TRNSCR	TRANSLATE SCREEN TO STRUCTURE
	TRNSCR/FL	FILL LOCATION STRUCTURE
	TRNSCR/FR	FREE LOCATION STRUCTURES
	TRNSCR/GT	GET FORM PROMPT INFORMATION
	TRNSCR/GT	GET PROMPT INFORMATION
	TRNSCR/LD	LOAD PROMPT INFORMATION
	TRNSCR/MT	MATCH PROMPT WITH FIELD
	TRNSCR/PA	PARSE SCREEN DATA
	TRNSCR/SP	SPECIAL SYMBOL CHECK

FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File	Module Name	Module Purpose
	TRNSTR	TRANSLATE STRUCTURE TO SCREEN
	TRNSTR/FL	FILL FIELD
	TRNSTR/FL	FILL PROMPT
	TRNSTR/GA	GET ARRAY INFORMATION
	VALINP	VALIDATE INPUT
	VALINP/CC	CHECK FIELD
	VALINP/CC	CHECK FORM
	VALINP/CC	CHECK HELP
	VALINP/CC	CHECK ITEM
	VALINP/CC	CHECK NAME
	VALINP/CC	CHECK PROMPT
	VALINP/CC	CHECK FOR RESERVED WORD
	VALINP/CC	CHECK VALUE
	VIEW	VIEW A FORM
	WRTEXP	WRITE EXPRESSION
	WRTFDL	WRITE FDL FILE
	WRTFDL/AR	ARRAY REFERENCE
FPDINI		
	FDFE	FORMS DRIVEN *FORM* EDITOR
	FDFE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
FPPARM		
	DRPWHL	DROP WHOLE
	EDTFLD	EDIT FIELD
	EDTMOD	EDIT MODE
	EDTWHL	EDIT WHOLE
	FDFE	FORMS DRIVEN FORM EDITOR
	FDFE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
	GFDINP	GET FIELD INPUT
	GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
	GWHINP	GET WHOLE INPUT

FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File	Module Name	Module Purpose
	INSFLD	INSERT FIELD
	INSFRM	INSERT FORM
	LAYOUT	LAYOUT MODE
	LISTFM	LIST FORMS
	LISTIT	LIST IT
	PUTERR	PUT ERROR
	SCRMAN	SCREEN MANAGER
	SCRMAN/CH	CHANG POSITION
	SCRMAN/GE	GET ROW
	TRNSCR	TRANSLATE SCREEN TO STRUCTURE
	TRNSCR/FL	FILL LOCATION STRUCTURE
	TRNSCR/FR	FREE LOCATION STRUCTURES
	TRNSCR/GT	GET FORM PROMPT INFORMATION
	TRNSCR/GT	GET PROMPT INFORMATION
	TRNSCR/LD	LOAD PROMPT INFORMATION
	TRNSCR/MT	MATCH PROMPT WITH FIELD
	TRNSCR/PA	PARSE SCREEN DATA
	TRNSCR/SP	SPECIAL SYMBOL CHECK
	VALINP	VALIDATE INPUT
	VALINP/CC	CHECK FIELD
	VALINP/CC	CHECK FORM
	VALINP/CC	CHECK HELP
	VALINP/CC	CHECK ITEM
	VALINP/CC	CHECK NAME
	VALINP/CC	CHECK PROMPT
	VALINP/CC	CHECK FOR RESERVED WORD
	VALINP/CC	CHECK VALUE
	VIEW	VIEW A FORM
NTM	FDFE	FORMS DRIVEN FORM EDITOR
	FDFE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include	Module	Module
File	Name	Purpose
RW	ADDCHK	ADD POSITION TO CHECK LIST
	CHKARY	CHECK ARRAY
	CHKFLD	CHECK FIELD
	CHKFRM	CHECK FORM
	CSTASH	CHARACTER STASH
	FLANCI	FLAN CALLABLE INTERFACE
	FLDTYP	FIELD TYPE
	FNDATT	FIND ATTRIBUTE
	GFLDPT	GET FIELD POINTER
	MAKINT	MAKE EXPRESSION INTO AN INTEGER
	MAKSTR	MAKE EXPRESSION INTO A STRING
	MKPOS	MAKE POSITION NODE
	MYALLOC	MY MALLOC
	WRTEXP	WRITE EXPRESSION
STDIO	ADDCHK	ADD POSITION TO CHECK LIST
	CHKARY	CHECK ARRAY
	CHKFLD	CHECK FIELD
	CHKFRM	CHECK FORM
	CSTASH	CHARACTER STASH
	EDTFLD	EDIT FIELD
	FLANCI	FLAN CALLABLE INTERFACE
	FLDTYP	FIELD TYPE
	FNDATT	FIND ATTRIBUTE
	GETFLS	GET FDL SOURCE FILE
	GETFLS/TR	TREE EXPRESSION
	GFLDPT	GET FIELD POINTER
	GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
	LISTIT	LIST IT
	MAKINT	MAKE EXPRESSION INTO AN INTEGER
	MAKSTR	MAKE EXPRESSION INTO A STRING
	MKPOS	MAKE POSITION NODE
	MYALLOC	MY MALLOC
	PRCFIL	PROCESS TEMPORARY FILE
	PREC	PRECEDENCE

FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File	Module Name	Module Purpose
	SAVFLS	SAVE FDL SOURCE
	WRTEXP	WRITE EXPRESSION
	WRTFDL	WRITE FDL FILE
	WRTFDL/AR	ARRAY REFERENCE
STDTYP		
	ADDCHK	ADD POSITION TO CHECK LIST
	ADDEXT	ADD EXTENSION TO FILE_NAME
	CHKARY	CHECK ARRAY
	CHKFLD	CHECK FIELD
	CHKFRM	CHECK FORM
	CHKPRM	CHECK PARAMETER
	CPYFRM	COPY FORM
	CSTASH	CHARACTER STASH
	DRPFRM	DROP FORM
	DRPWHL	DROP WHOLE
	EDTFLD	EDIT FIELD
	EDTMOD	EDIT MODE
	EDTWHL	EDIT WHOLE
	ERROR	ISSUE ERROR MESSAGE
	EXPAND	EXPAND AN ARRAY
	EXPAND/FI	FIX UP A FORM
	FATAL	ISSUE FATAL ERROR MESSAGE
	FDFE	FORMS DRIVEN FORM EDITOR
	FDFE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
	FIFDST	FILL IN FIELD STRUCTURE
	FLANCI	FLAN CALLABLE INTERFACE
	FLDTYP	FIELD TYPE
	FLFMST	FIELD TO FORM STRUCTURE TRANSLATION
	FLSTRC	FIELD STRUCTURE TRANSLATION
	FLWHST	FILL WHOLE STRUCTURE
	FNDATT	FIND ATTRIBUTE
	FREBUF	FREE BUFFER
	GETFLS	GET FDL SOURCE FILE
	GETFLS/TR	TREE EXPRESSION
	GETLEN	GET LENGTH

FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File	Module Name	Module Purpose
	GFDINP	GET FIELD INPUT
	GFLDPT	GET FIELD POINTER
	GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
	GNXTFD	GET NEXT FIELD
	GNXTFD/NX	NEXT FIELD
	GTCPFD	GET USING CURSOR POSITION FIELD
	GTFDTX	GET FIELD TEXT
	GTFDTX/GT	GET TEXT INFORMATION
	GTNMFD	GET NAMED FIELD
	GWHINP	GET WHOLE INPUT
	INSFLD	INSERT FIELD
	INSFRM	INSERT FORM
	INSWHL	INSERT WHOLE
	LAYOUT	LAYOUT MODE
	LISTFM	LIST FORMS
	LISTIT	LIST IT
	MAKINT	MAKE EXPRESSION INTO AN INTEGER
	MAKSTR	MAKE EXPRESSION INTO A STRING
	MKPOS	MAKE POSITION NODE
	MODFLD	MODIFY FIELD
	MODFRM	MODIFY FORM
	MODFRM/FR	FREE TEXT
	MODWHL	MODIFY WHOLE
	MYALLOC	MY MALLOC
	PRCFIL	PROCESS TEMPORARY FILE
	PREC	PRECEDENCE
	PRSCMD	PARSE COMMAND
	PUTERR	PUT ERROR
	SAVFLS	SAVE FDL SOURCE
	SCRMAN	SCREEN MANAGER
	SCRMAN/CH	CHANG POSITION
	SCRMAN/GE	GET ROW
	TRNSCR	TRANSLATE SCREEN TO STRUCTURE
	TRNSCR/FL	FILL LOCATION STRUCTURE
	TRNSCR/FR	FREE LOCATION STRUCTURES
	TRNSCR/GT	GET FORM PROMPT INFORMATION
	TRNSCR/GT	GET PROMPT INFORMATION
	TRNSCR/LD	LOAD PROMPT INFORMATION
	TRNSCR/MT	MATCH PROMPT WITH FIELD
	TRNSCR/PA	PARSE SCREEN DATA

FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File	Module Name	Module Purpose
	TRNSCR/SP	SPECIAL SYMBOL CHECK
	TRNSTR	TRANSLATE STRUCTURE TO SCREEN
	TRNSTR/FL	FILL FIELD
	TRNSTR/FL	FILL PROMPT
	TRNSTR/GA	GET ARRAY INFORMATION
	VALINP	VALIDATE INPUT
	VALINP/CC	CHECK FIELD
	VALINP/CC	CHECK FORM
	VALINP/CC	CHECK HELP
	VALINP/CC	CHECK ITEM
	VALINP/CC	CHECK NAME
	VALINP/CC	CHECK PROMPT
	VALINP/CC	CHECK FOR RESERVED WORD
	VALINP/CC	CHECK VALUE
	VIEW	VIEW A FORM
	WARNING	ISSUE WARNING MESSAGE
	WRTEXP	WRITE EXPRESSION
	WRTFDL	WRITE FDL FILE
	WRTFDL/AR	ARRAY REFERENCE

3.10.6 Where External Routine Used List

The following lists each external function or routine listed in 3.10.3 and all the documented modules which call it. The purpose of each module is listed as well.

```
   FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System    Module     Module
Module    Name       Purpose
------    ------     -------

ABORT
          VALINP     VALIDATE INPUT


ABS
          CHKARY     CHECK ARRAY
          CHKFRM     CHECK FORM
          CHKFRM     CHECK FORM
          EXPAND     EXPAND AN ARRAY
          SCRMAN/CHGCHANG POSITION
          TRNSTR/GARGET ARRAY INFORMATION
          WRTFDL/ARYARRAY REFERENCE


ACCESS
          FDFE       FORMS DRIVEN FORM EDITOR


ADDFRM
          DRPWHL     DROP WHOLE
          EDTFLD     EDIT FIELD
          EDTMOD     EDIT MODE
          EDTWHL     EDIT WHOLE
          FDFE       FORMS DRIVEN FORM EDITOR
          GWHINP     GET WHOLE INPUT
          LISTFM     LIST FORMS
          LISTIT     LIST IT
          SCRMAN     SCREEN MANAGER
          VIEW       VIEW A FORM


ATOI
          VALINP/CCKCHECK FIELD
          VALINP/CCKCHECK ITEM
```

FORMS DRIVEN FORM EDITOR Where-external-routine-used L

System Module	Module Name	Module Purpose
BLEN		
	CHKFLD	CHECK FIELD
	FLSTRC	FIELD STRUCTURE TRANSLATION
	GETFLS	GET FDL SOURCE F1LE
	GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
	WRTFDL	WRITE FDL FILE
CLSFRM		
	VIEW	VIEW A FORM
COPFLD		
	EXPAND	EXPAND AN ARRAY
	EXPAND/FIX	FIX UP A FORM
COPY		
	FDFE	FORMS DRIVEN FORM EDITOR
DELFLD		
	DRPFRM	DROP FORM
	DRPWHL	DROP WHOLE
	EDTFLD	EDIT FIELD
	EXPAND/FIX	FIX UP A FORM
	FLANCI	FLAN CALLABLE INTERFACE
	FREBUF	FREE BUFFER
	MODFLD	MODIFY FIELD
	SAVFLS	SAVE FDL SOURCE
	TRNSCR	TRANSLATE SCREEN TO STRUCTURE

FORMS DRIVEN FORM EDITOR Where-external-routine-used List

```
System   Module    Module
Module   Name      Purpose
------   ------    -------



ESCPY
         ADDEXT    ADD EXTENSION TO FILE_NAME
         CHKPRM    CHECK PARAMETER
         CPYFRM    COPY FORM
         FIFDST    FILL IN FIELD STRUCTURE
         GETFLS    GET FDL SOURCE FILE
         GITMD     GET ITEM DATA AND INSERT IN STRUCTURE
         GTFDTX    GET FIELD TEXT
         GTNMFD    GET NAMED FIELD
         INSFLD    INSERT FIELD
         INSFRM    INSERT FORM
         MODFRM    MODIFY FORM
         SAVFLS    SAVE FDL SOURCE
         SCRMAN/GETGET ROW
         VALINP/CCKCHECK FIELD
         VALINP/CCKCHECK FORM
         VALINP/CCKCHECK HELP
         VALINP/CCKCHECK ITEM
         VALINP/CCKCHECK FOR RESERVED WORD
         WRTFDL    WRITE FDL FILE


FCLOSE
         FDFE      FORMS DRIVEN FORM EDITOR
         GETFLS    GET FDL SOURCE FILE
         LISTIT    LIST IT
         SAVFLS    SAVE FDL SOURCE


FEOF
         LISTIT    LIST IT


FERROR
```

FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System Module	Module Name	Module Purpose
	PRCFIL	PROCESS TEMPORARY FILE
FGETS		
	PRCFIL	PROCESS TEMPORARY FILE
FOPEN		
	FDFE	FORMS DRIVEN FORM EDITOR
	GETFLS	GET FDL SOURCE FILE
	LISTIT	LIST IT
	SAVFLS	SAVE FDL SOURCE
FPRINTF		
	WRTFDL	WRITE FDL FILE
FREE		
	CHKFLD	CHECK FIELD
	CHKFRM	CHECK FORM
	GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
	GTFDTX	GET FIELD TEXT
	MODFLD	MODIFY FIELD
	MODFRM/FRE	FREE TEXT
	TRNSCR/FRL	FREE LOCATION STRUCTURES
	WRTEXP	WRITE EXPRESSION
GATDEF		
	FIFDST	FILL IN FIELD STRUCTURE
	INSFLD	INSERT FIELD
	INSFRM	INSERT FORM

```
   FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System   Module    Module
Module   Name      Purpose
------   ------    -------



GDATA
         DRPWHL    DROP WHOLE
         EDTFLD    EDIT FIELD
         EDTMOD    EDIT MODE
         EDTWHL    EDIT WHOLE
         FDFE      FORMS DRIVEN FORM EDITOR
         GFDINP    GET FIELD INPUT
         GWHINP    GET WHOLE INPUT
         SCRMAN    SCREEN MANAGER


GETCUR
         SCRMAN    SCREEN MANAGER
         SCRMAN/CHGCHANG POSITION


GWINDO
         VIEW      VIEW A FORM


INITAL
         FDFE/MAIN MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR
                    (FDFE)


INITFP
         FDFE/MAIN MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR
                    (FDFE)


ISALPHA
         VALINP/CCKCHECK FIELD
   FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System   Module    Module
Module   Name      Purpose
------   ------    -------

         VALINP/CCKCHECK HELP


ISSPACE
         TRNSCR    TRANSLATE SCREEN TO STRUCTURE
         TRNSCR/GTPGET PROMPT INFORMATION
         TRNSCR/PARPARSE SCREEN DATA


MAKFLD
         INSFLD    INSERT FIELD
         INSFRM    INSERT FORM


MALLOC
         GETFLS    GET FDL SOURCE FILE
         GITMD     GET ITEM DATA AND INSERT IN STRUCTURE
         GTFDTX    GET FIELD TEXT
         MODFRM    MODIFY FORM
         MYALLOC   MY MALLOC
         TRNSCR/FLCFILL LOCATION STRUCTURE
         TRNSCR/GTPGET PROMPT INFORMATION


MATOI
         GITMD     GET ITEM DATA AND INSERT IN STRUCTURE
         GTFDTX/GTXGET TEXT INFORMATION
         INSFLD    INSERT FIELD
         MODFLD    MODIFY FIELD
         MODFRM    MODIFY FORM
         SCRMAN/GETGET ROW
         VALINP/CCKCHECK FIELD


MAX
```

FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System Module	Module Name	Module Purpose
	CHKFLD	CHECK FIELD
	CHKFRM	CHECK FORM
	GETFLS	GET FDL SOURCE FILE
	GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
	INSFLD	INSERT FIELD
	SCRMAN/CHG	CHANG POSITION
	TRNSCR/GTP	GET PROMPT INFORMATION
	TRNSCR/MTC	MATCH PROMPT WITH FIELD
	TRNSTR/FLF	FILL FIELD
MEMCMP		
	CHKPRM	CHECK PARAMETER
	CPYFRM	COPY FORM
	DRPWHL	DROP WHOLE
	EDTFLD	EDIT FIELD
	EDTMOD	EDIT MODE
	EDTWHL	EDIT WHOLE
	FDFE	FORMS DRIVEN FORM EDITOR
	FDFE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
	GFDINP	GET FIELD INPUT
	GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
	GNXTFD	GET NEXT FIELD
	GWHINP	GET WHOLE INPUT
	INSWHL	INSERT WHOLE
	LAYOUT	LAYOUT MODE
	LISTFM	LIST FORMS
	LISTIT	LIST IT
	MODWHL	MODIFY WHOLE
	PRSCMD	PARSE COMMAND
	PUTERR	PUT ERROR
	SCRMAN	SCREEN MANAGER
	SCRMAN/CHG	CHANG POSITION
	TRNSCR	TRANSLATE SCREEN TO STRUCTURE
	VALINP	VALIDATE INPUT
	VALINP/CCK	CHECK FIELD
	VALINP/CCK	CHECK FORM
	VALINP/CCK	CHECK HELP

FORMS DRIVEN FORM EDITOR Where-external-routine-used List

```
System    Module    Module
Module    Name      Purpose
------    ------    -------

          VALINP/CCKCHECK ITEM
          VALINP/CCKCHECK NAME
          VALINP/CCKCHECK PROMPT
          VIEW      VIEW A FORM


MEMCPY
          CHKFLD    CHECK FIELD
          CPYFRM    COPY FORM
          EDTFLD    EDIT FIELD
          EDTWHL    EDIT WHOLE
          FDFE      FORMS DRIVEN FORM EDITOR
          FLSTRC    FIELD STRUCTURE TRANSLATION
          GETFLS    GET FDL SOURCE FILE
          GITMD     GET ITEM DATA AND INSERT IN STRUCTURE
          GWHINP    GET WHOLE INPUT
          LISTFM    LIST FORMS
          TRNSCR    TRANSLATE SCREEN TO STRUCTURE
          TRNSCR/LDPLOAD PROMPT INFORMATION
          WRTEXP    WRITE EXPRESSION


MEMDGT
          GITMD     GET ITEM DATA AND INSERT IN STRUCTURE


MEMSET
          CHKFLD    CHECK FIELD
          DRPWHL    DROP WHOLE
          EDTFLD    EDIT FIELD
          EDTMOD    EDIT MODE
          EDTWHL    EDIT WHOLE
          FDFE      FORMS DRIVEN FORM EDITOR
          FLFMST    FIELD TO FORM STRUCTURE TRANSLATION
          FLSTRC    FIELD STRUCTURE TRANSLATION
          FLWHST    FILL WHOLE STRUCTURE
          GETFLS    GET FDL SOURCE FILE
```

```
   FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System   Module   Module
Module   Name     Purpose
------   ------   -------

         GITMD    GET ITEM DATA AND INSERT IN STRUCTURE
         LISTFM   LIST FORMS
         MODFLD   MODIFY FIELD
         PRCFIL   PROCESS TEMPORARY FILE
         PRSCMD   PARSE COMMAND
         TRNSCR   TRANSLATE SCREEN TO STRUCTURE
         TRNSTR   TRANSLATE STRUCTURE TO SCREEN


MIN
         GITMD    GET ITEM DATA AND INSERT IN STRUCTURE
         SCRMAN/CHGCHANG POSITION
         TRNSCR/GTPGET PROMPT INFORMATION
         TRNSCR/PARPARSE SCREEN DATA
         TRNSTR/FLFFILL FIELD
         TRNSTR/FLPFILL PROMPT
         VALINP/CCKCHECK FIELD
         VALINP/CCKCHECK FORM


MITOA
         TRNSCR   TRANSLATE SCREEN TO STRUCTURE
         TRNSCR/GTFGET FORM PROMPT INFORMATION
         TRNSCR/LDPLOAD PROMPT INFORMATION


MKTEMP
         LISTIT   LIST IT


OISCR
         DRPWHL   DROP WHOLE
         EDTFLD   EDIT FIELD
         EDTMOD   EDIT MODE
         EDTWHL   EDIT WHOLE
         FDFE     FORMS DRIVEN FORM EDITOR
   FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System   Module    Module
Module   Name      Purpose
------   ------    -------

         GFDINP    GET FIELD INPUT
         GWHINP    GET WHOLE INPUT
         LISTFM    LIST FORMS
         LISTIT    LIST IT
         SCRMAN    SCREEN MANAGER
         VIEW      VIEW A FORM


PDATA
         DRPWHL    DROP WHOLE
         EDTFLD    EDIT FIELD
         EDTMOD    EDIT MODE
         EDTWHL    EDIT WHOLE
         GFDINP    GET FIELD INPUT
         GWHINP    GET WHOLE INPUT
         LISTFM    LIST FORMS
         LISTIT    LIST IT
         SCRMAN    SCREEN MANAGER


PMSGLC
         EDTFLD    EDIT FIELD
         EDTWHL    EDIT WHOLE
         PUTERR    PUT ERROR
         SCRMAN    SCREEN MANAGER


PMSGLS
         DRPWHL    DROP WHOLE
         EDTFLD    EDIT FIELD
         EDTMOD    EDIT MODE
         EDTWHL    EDIT WHOLE
         ERROR     ISSUE ERROR MESSAGE
         FATAL     ISSUE FATAL ERROR MESSAGE
         FDFE      FORMS DRIVEN FORM EDITOR
         INSFLD    INSERT FIELD
         INSWHL    INSERT WHOLE
```

FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System Module	Module Name	Module Purpose
	LISTFM	LIST FORMS
	LISTIT	LIST IT
	MODFLD	MODIFY FIELD
	MODWHL	MODIFY WHOLE
	PUTERR	PUT ERROR
	SCRMAN	SCREEN MANAGER
	SCRMAN/CHG	CHANG POSITION
	TRNSTR/FLF	FILL FIELD
	VIEW	VIEW A FORM
	WARNING	ISSUE WARNING MESSAGE
PUTATT		
	DRPWHL	DROP WHOLE
	EDTFLD	EDIT FIELD
	EDTMOD	EDIT MODE
	EDTWHL	EDIT WHOLE
	FDFE	FORMS DRIVEN FORM EDITOR
	GWHINP	GET WHOLE INPUT
	PUTERR	PUT ERROR
PUTCUR		
	EDTFLD	EDIT FIELD
	GWHINP	GET WHOLE INPUT
	PUTERR	PUT ERROR
RENAME		
	FDFE	FORMS DRIVEN FORM EDITOR
	SAVFLS	SAVE FDL SOURCE
REWIND		
	SAVFLS	SAVE FDL SOURCE

FORMS DRIVEN FORM EDITOR Where-external-routine-used List

```
System   Module    Module
Module   Name      Purpose
------   ------    -------



RMVPAG
         DRPWHL    DROP WHOLE
         EDTFLD    EDIT FIELD
         EDTMOD    EDIT MODE
         EDTWHL    EDIT WHOLE
         FDFE      FORMS DRIVEN FORM EDITOR
         GWHINP    GET WHOLE INPUT
         LISTFM    LIST FORMS
         LISTIT    LIST IT
         SCRMAN    SCREEN MANAGER
         VIEW      VIEW A FORM


RSVATT
         EXPAND    EXPAND AN ARRAY
         EXPAND/FIXFIX UP A FORM


SPRINTF
         ADDEXT    ADD EXTENSION TO FILE_NAME
         DRPWHL    DROP WHOLE
         EDTFLD    EDIT FIELD
         EDTWHL    EDIT WHOLE
         ERROR     ISSUE ERROR MESSAGE
         FATAL     ISSUE FATAL ERROR MESSAGE
         FDFE      FORMS DRIVEN FORM EDITOR
         FLFMST    FIELD TO FORM STRUCTURE TRANSLATION
         FLSTRC    FIELD STRUCTURE TRANSLATION
         GETFLS    GET FDL SOURCE FILE
         GETFLS/TRETREE EXPRESSION
         GFDINP    GET FIELD INPUT
         GWHINP    GET WHOLE INPUT
         INSWHL    INSERT WHOLE
         LISTIT    LIST IT
         MODWHL    MODIFY WHOLE
```

```
   FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System    Module    Module
Module    Name      Purpose
------    ------    -------

          PRCFIL    PROCESS TEMPORARY FILE
          SAVFLS    SAVE FDL SOURCE
          TRNSCR    TRANSLATE SCREEN TO STRUCTURE
          TRNSTR/FLFFILL FIELD
          VALINP    VALIDATE INPUT
          VALINP/CCKCHECK FIELD
          VALINP/CCKCHECK FORM
          VALINP/CCKCHECK NAME
          WARNING   ISSUE WARNING MESSAGE
          WRTEXP    WRITE EXPRESSION
          WRTFDL/ARYARRAY REFERENCE


STRASN
          CHKARY    CHECK ARRAY
          CHKFRM    CHECK FORM


STRCAT
          ADDEXT    ADD EXTENSION TO FILE_NAME
          GETFLS    GET FDL SOURCE FILE
          GETFLS/TRETREE EXPRESSION
          LISTIT    LIST IT
          PUTERR    PUT ERROR
          SAVFLS    SAVE FDL SOURCE
          WRTFDL/ARYARRAY REFERENCE


STRCHR
          PRCFIL    PROCESS TEMPORARY FILE
          VALINP/CCKCHECK FIELD
          VALINP/CCKCHECK FORM
          VALINP/CCKCHECK HELP
          VALINP/CCKCHECK ITEM
```

FORMS DRIVEN FORM EDITOR Where-external-routine-used List

```
System    Module    Module
Module    Name      Purpose
------    ------    -------

STRCMP
          EXPAND/FIXFIX UP A FORM
          FNDATT    FIND ATTRIBUTE
          GFLDPT    GET FIELD POINTER
          GTNMFD    GET NAMED FIELD
          VALINP/CCKCHECK FIELD
          VALINP/CCKCHECK HELP
          VALINP/CCKCHECK FOR RESERVED WORD
          WRTFDL    WRITE FDL FILE


STRCPY
          CSTASH    CHARACTER STASH
          FLSTRC    FIELD STRUCTURE TRANSLATION
          LISTIT    LIST IT
          PUTERR    PUT ERROR
          SAVFLS    SAVE FDL SOURCE


STRLEN
          CHKFLD    CHECK FIELD
          CHKFRM    CHECK FORM
          CSTASH    CHARACTER STASH
          EDTFLD    EDIT FIELD
          EDTWHL    EDIT WHOLE
          ERROR     ISSUE ERROR MESSAGE
          FATAL     ISSUE FATAL ERROR MESSAGE
          FDFE      FORMS DRIVEN FORM EDITOR
          GETFLS    GET FDL SOURCE FILE
          GTNMFD    GET NAMED FIELD
          LISTFM    LIST FORMS
          PRSCMD    PARSE COMMAND
          SCRMAN/GETGET ROW
          TRNSCR    TRANSLATE SCREEN TO STRUCTURE
          VALINP/CCKCHECK FIELD
          VALINP/CCKCHECK HELP
          WARNING   ISSUE WARNING MESSAGE
          WRTEXP    WRITE EXPRESSION
```

```
   FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System     Module     Module
Module     Name       Purpose
------     ------     -------



STRNCMP
           CPYFRM     COPY FORM
           PRSCMD     PARSE COMMAND
           VALINP/CCKCHECK HELP
           WRTFDL     WRITE FDL FILE


STRNCPY
           PRSCMD     PARSE COMMAND


STRRCHR
           ADDEXT     ADD EXTENSION TO FILE_NAME
           GETFLS     GET FDL SOURCE FILE
           PRCFIL     PROCESS TEMPORARY FILE
           SAVFLS     SAVE FDL SOURCE
           SCRMAN/GETGET ROW


STRSPN
           VALINP/CCKCHECK FIELD
           VALINP/CCKCHECK HELP


STRUPC
           VALINP/CCKCHECK HELP


SYSMSG
           CHKFLD     CHECK FIELD
           GETFLS     GET FDL SOURCE FILE
           GITMD      GET ITEM DATA AND INSERT IN STRUCTURE
```

FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System Module	Module Name	Module Purpose
	GTFDTX	GET FIELD TEXT
	LISTIT	LIST IT
	MODFRM	MODIFY FORM
	SAVFLS	SAVE FDL SOURCE
	VIEW	VIEW A FORM
SYSTEM		
	LISTIT	LIST IT
TERMFP		
	FDFE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
TRMNAT		
	FDFE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
UNLINK		
	FDFE	FORMS DRIVEN FORM EDITOR
	LISTIT	LIST IT
WRTFRM		
	SAVFLS	SAVE FDL SOURCE
YYPARSE		
	FLANCI	FLAN CALLABLE INTERFACE

FORMS DRIVEN FORM EDITOR Where-external-routine-used List

```
System   Module    Module
Module   Name      Purpose
------   ------    -------
```

3.10.7 Main Program Parts List

The following lists each Main Program listed in 3.10.1 and all the modules which are called either by that module itself or by any of the documented modules which it calls. It is possible for a non-main module to be listed more that once if it is called by multiple modules. The called modules, in this case known as program parts, are marked as to whether they are documented here. If so, the phrase "well-defined module" appears by the module name, if not it is an "external "routine". The Purpose of the Main Program module is listed as well.

FORMS DRIVEN FORM EDITOR Main Program Parts List

Main Pgm Name	Module Name	Module Type
CHKFLD		Purpose-->CHECK FIELD
	BLEN	External routine
	ERROR	Well-defined module
	FATAL	Well-defined module
	FNDATT	Well-defined module
	FREE	External routine
	MALLOC	External routine
	MAX	External routine
	MEMCPY	External routine
	MEMSET	External routine
	MYALLOC	Well-defined module
	PMSGLS	External routine
	SPRINTF	External routine
	STRCMP	External routine
	STRLEN	External routine
	SYSMSG	External routine
	WRTEXP	Well-defined module

FORMS DRIVEN FORM EDITOR Main Program Parts List

```
Main Pgm   Module            Module
Name       Name              Type
--------   ------            ------

CHKFRM              Purpose-->CHECK FORM
           ABS               External routine
           ADDCHK            Well-defined module
           CHKARY            Well-defined module
           ERROR             Well-defined module
           FATAL             Well-defined module
           FLDTYP            Well-defined module
           FNDATT            Well-defined module
           FREE              External routine
           GFLDPT            Well-defined module
           MALLOC            External routine
           MAX               External routine
           MYALLOC           Well-defined module
           PMSGLS            External routine
           SPRINTF           External routine
           STRASN            External routine
           STRCMP            External routine
           STRLEN            External routine
           WARNING           Well-defined module
```

FORMS DRIVEN FORM EDITOR Main Program Parts List

```
Main Pgm  Module              Module
Name      Name                Type
--------  ------              ------

CSTASH            Purpose-->CHARACTER STASH
          FATAL               Well-defined module
          MALLOC              External routine
          MYALLOC             Well-defined module
          PMSGLS              External routine
          SPRINTF             External routine
          STRCPY              External routine
          STRLEN              External routine
```

FORMS DRIVEN FORM EDITOR Main Program Parts List

Main Pgm Name	Module Name	Module Type
FDFE/MAIN	Purpose-->	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
	ABORT	External routine
	ABS	External routine
	ACCESS	External routine
	ADDEXT	Well-defined module
	ADDFRM	External routine
	ATOI	External routine
	BLEN	External routine
	CHKPRM	Well-defined module
	CLSFRM	External routine
	COPY	External routine
	CPYFRM	Well-defined module
	DELFLD	External routine
	DRPFRM	Well-defined module
	DRPWHL	Well-defined module
	EDTFLD	Well-defined module
	EDTMOD	Well-defined module
	EDTWHL	Well-defined module
	ESCPY	External routine
	FCLOSE	External routine
	FDFE	Well-defined module
	FEOF	External routine
	FERROR	External routine
	FGETS	External routine
	FIFDST	Well-defined module
	FLANCI	Well-defined module
	FLFMST	Well-defined module
	FLSTRC	Well-defined module
	FLWHST	Well-defined module
	FNDATT	Well-defined module
	FOPEN	External routine
	FPRINTF	External routine
	FREBUF	Well-defined module
	FREE	External routine
	GATDEF	External routine
	GDATA	External routine
	GETCUR	External routine
	GETFLS	Well-defined module
	GETFLS/TREEXP	Well-defined module

FORMS DRIVEN FORM EDITOR Main Program Parts List

Main Pgm Name	Module Name	Module Type
	GETLEN	Well-defined module
	GFDINP	Well-defined module
	GITMD	Well-defined module
	GNXTFD	Well-defined module
	GNXTFD/NXTFLD	Well-defined module
	GTCPFD	Well-defined module
	GTFDTX	Well-defined module
	GTFDTX/GTXINF	Well-defined module
	GTNMFD	Well-defined module
	GWHINP	Well-defined module
	GWINDO	External routine
	INITAL	External routine
	INITFP	External routine
	INSFLD	Well-defined module
	INSFRM	Well-defined module
	INSWHL	Well-defined module
	ISALPHA	External routine
	ISSPACE	External routine
	LAYOUT	Well-defined module
	LISTFM	Well-defined module
	LISTIT	Well-defined module
	MAKFLD	External routine
	MALLOC	External routine
	MATOI	External routine
	MAX	External routine
	MEMCMP	External routine
	MEMCPY	External routine
	MEMDGT	External routine
	MEMSET	External routine
	MIN	External routine
	MITOA	External routine
	MKTEMP	External routine
	MODFLD	Well-defined module
	MODFRM	Well-defined module
	MODFRM/FRETXT	Well-defined module
	MODWHL	Well-defined module
	OISCR	External routine
	PDATA	External routine
	PMSGLC	External routine
	PMSGLS	External routine

FORMS DRIVEN FORM EDITOR Main Program Parts List

Main Pgm Name	Module Name	Module Type
	PRCFIL	Well-defined module
	PREC	Well-defined module
	PRSCMD	Well-defined module
	PUTATT	External routine
	PUTCUR	External routine
	PUTERR	Well-defined module
	RENAME	External routine
	REWIND	External routine
	RMVPAG	External routine
	SAVFLS	Well-defined module
	SCRMAN	Well-defined module
	SCRMAN/CHGPOS	Well-defined module
	SCRMAN/GETROW	Well-defined module
	SPRINTF	External routine
	STRCAT	External routine
	STRCHR	External routine
	STRCMP	External routine
	STRCPY	External routine
	STRLEN	External routine
	STRNCMP	External routine
	STRNCPY	External routine
	STRRCHR	External routine
	STRSPN	External routine
	STRUPC	External routine
	SYSMSG	External routine
	SYSTEM	External routine
	TERMFP	External routine
	TRMNAT	External routine
	TRNSCR	Well-defined module
	TRNSCR/FLCST	Well-defined module
	TRNSCR/FRLCST	Well-defined module
	TRNSCR/GTFMPMT	Well-defined module
	TRNSCR/GTPINF	Well-defined module
	TRNSCR/LDPMINF	Well-defined module
	TRNSCR/MTCHPMT	Well-defined module
	TRNSCR/PARSCRN	Well-defined module
	TRNSCR/SPSYMB	Well-defined module
	TRNSTR	Well-defined module
	TRNSTR/FLFLD	Well-defined module
	TRNSTR/FLPRMPT	Well-defined module

FORMS DRIVEN FORM EDITOR Main Program Parts List

Main Pgm Name	Module Name	Module Type
	TRNSTR/GARINF	Well-defined module
	UNLINK	External routine
	VALINP	Well-defined module
	VALINP/CCKFLD	Well-defined module
	VALINP/CCKFRM	Well-defined module
	VALINP/CCKHLP	Well-defined module
	VALINP/CCKITM	Well-defined module
	VALINP/CCKNAM	Well-defined module
	VALINP/CCKPRM	Well-defined module
	VALINP/CCKRSV	Well-defined module
	VIEW	Well-defined module
	WRTFDL	Well-defined module
	WRTFDL/ARYREF	Well-defined module
	WRTFRM	External routine
	YYPARSE	External routine

FORMS DRIVEN FORM EDITOR Main Program Parts List

```
Main Pgm   Module            Module
Name       Name              Type
--------   ------            ------

MAKINT             Purpose-->MAKE EXPRESSION INTO AN INTEGER
           FATAL             Well-defined module
           MALLOC            External routine
           MYALLOC           Well-defined module
           PMSGLS            External routine
           SPRINTF           External routine
           STRLEN            External routine
```

```
   FORMS DRIVEN FORM EDITOR Main Program Parts List

Main Pgm   Module             Module
Name       Name               Type
--------   ------             ------

MAKSTR              Purpose-->MAKE EXPRESSION INTO A STRING
           FATAL              Well-defined module
           MALLOC             External routine
           MYALLOC            Well-defined module
           PMSGLS             External routine
           SPRINTF            External routine
           STRLEN             External routine
```

FORMS DRIVEN FORM EDITOR Main Program Parts List

```
Main Pgm   Module             Module
Name       Name               Type
--------   ------             ------

MKPOS              Purpose-->MAKE POSITION NODE
           FATAL              Well-defined module
           MALLOC             External routine
           MYALLOC            Well-defined module
           PMSGLS             External routine
           SPRINTF            External routine
           STRLEN             External routine
```

3.10.8 Module Documentation

The following documentation describes information which is specific to each individual module being documented in this specification as listed in section 3.10.2. It provides a compact way of getting information that would be otherwise buried within each module's source code.

The specific items in this module documentation have the following meanings:

NAME: Name of program Module.

PURPOSE: Purpose of Module as detailed in the source code.

LANGUAGE: Programming language source code is written in.
The choices are:
VAX-11 FORTRAN
C (I/S-1 Workbench 'C')
VAX-11 COBOL

MODULE TYPE: Whether a Program, Subroutine, or Function.

SOURCE FILE: Name of Source File from file specification.

SOURCE FILE TYPE: Source File Extension from file specification.

HOST: Whether this is a host-dependent routine (VAX or IBM) or blank if host-independent.

SUBSYSTEM: IISS sub-system this file resides in.

SUBDIRECTORY: Sub-directory of that subsystem in which this file resides.

DOCUMENTATION GROUP: Name of documentation group of which this source file is a member.

DESCRIPTION: A description of the module as obtained from the source code.

ARGUMENTS: The arguments with which this routine is called if it is a Subroutine or a Function.

INCLUDE FILES: A list of all the files that are included into this module as well as their purposes.

ROUTINES CALLED: Subroutines or Functions, either documented or external, called by this module, if any.

CALLED DIRECTLY BY: The documented routines which call this module, if any.

USED IN MAIN PROGRAM(S): The documented Main Programs which contain this module in their parts list according to the list in section 3.10.7.

The Module Documentation is arranged alphabetically according to Module Name.

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                     ADDCHK
PURPOSE:                  ADD POSITION TO CHECK LIST
LANGUAGE:                 C
MODULE TYPE:              SUBROUTINE
FUNCTION TYPE:            VOID ()
SOURCE FILE:              FLANSP
SOURCE FILE TYPE:         .C
HOST:
SUBSYSTEM:                UI
SUBDIRECTORY:             FE
DOCUMENTATION GROUP:      FDFE/FLAN

DESCRIPTION:
------------
  SYNOPSIS
     VOID ADDCHK(POSPTR)
        POS *POSPTR;

  DESCRIPTION
     ADDS THE SPECIFIED POSITION TO THE OVERLAP CHECK LIST

ARGUMENTS:
----------
  POSPTR =       POS *


INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  STDIO       - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPD         - FORM PROCESSOR DATA
  RW          - REPORT WRITER DEFINITIONS
  FPCODE      - FORM PROCESSOR RETURN CODES


ROUTINES CALLED:
----------------
  FLDTYP      - FIELD TYPE
  ERROR       - ISSUE ERROR MESSAGE


CALLED DIRECTLY BY:
-------------------
  CHKFRM      - CHECK FORM


USED IN MAIN PROGRAM(S):
------------------------
  CHKFRM      - CHECK FORM
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	ADDEXT
PURPOSE:	ADD EXTENSION TO FILE_NAME
LANGUAGE:	C
MODULE TYPE:	SUBROUTINE
FUNCTION TYPE:	VOID ()
SOURCE FILE:	ADDEXT
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

```
  SYNOPSIS
     VOID ADDEXT(NAME, FLG, FILE_NAME)
       ENAME   NAME;
       INT     FLG;
       CHAR    FILE_NAME[];


     INPUTS/OUTPUTS:


     INPUTS:
       ENAME   NAME; NAME OF FILE WITHOUT EXTENSION.
       INT     FLG;  TYPE OF EXTENSION AND DIRECTORY TO ADD.


     OUTPUTS:
       CHAR    FILE_NAME[] NEW NAME WITH EXTENSION ADDED.
```

DESCRIPTION

CONCATENATES THE SPECIFIED EXTENSION ONTO THE NAME AND
RETURNS
IT IN FILE_NAME.

ARGUMENTS:

```
  NAME =        CHAR []
  FLG =       INT
  FILE_NAME =        CHAR []
```

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS
FPD	- FORM PROCESSOR DATA
FDFEFM	- FDFE FORM DEFINITIONS
FDFE	- FDFE DATA STRUCTURES

```
ROUTINES CALLED:
----------------
  ESCPY
  STRRCHR
  STRCAT
  SPRINTF

CALLED DIRECTLY BY:
-------------------
  FDFE        - FORMS DRIVEN FORM EDITOR

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                   CHKARY
PURPOSE:                CHECK ARRAY
LANGUAGE:               C
MODULE TYPE:            FUNCTION
FUNCTION TYPE:          CHAR * ()
SOURCE FILE:            FLANSP
SOURCE FILE TYPE:       .C
HOST:
SUBSYSTEM:              UI
SUBDIRECTORY:           FE
DOCUMENTATION GROUP:    FDFE/FLAN

DESCRIPTION:
------------
  SYNOPSIS
     VOID CHKARY(ARYPTR)
        FIELD *ARYPTR;

  DESCRIPTION
     GENERATES POSITIONS FOR EACH ELEMENT OF AN ARRAY FOR
                        OVERLAP CHECKING

ARGUMENTS:
----------
  ARYPTR =       FIELD *


INCLUDE FILES:
--------------
  STDTYP     - STANDARD TYPE DEFINITIONS
  STDIO      - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPD        - FORM PROCESSOR DATA
  RW         - REPORT WRITER DEFINITIONS
  FPCODE     - FORM PROCESSOR RETURN CODES


ROUTINES CALLED:
----------------
  MYALLOC    - MY MALLOC
  ABS
  STRASN


CALLED DIRECTLY BY:
-------------------
  CHKFRM     - CHECK FORM


USED IN MAIN PROGRAM(S):
------------------------
  CHKFRM     - CHECK FORM
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                   CHKFLD
PURPOSE:                CHECK FIELD
LANGUAGE:               C
MODULE TYPE:            FUNCTION
FUNCTION TYPE:          CHAR * ()
SOURCE FILE:            FLANSP
SOURCE FILE TYPE:       .C
HOST:
SUBSYSTEM:              UI
SUBDIRECTORY:           FE
DOCUMENTATION GROUP:    FDFE/FLAN

DESCRIPTION:
------------
  SYNOPSIS
     VOID CHKFLD()

  DESCRIPTION
     CHECKS THE CURRENT FIELD FOR COMPLETENESS AND CONSISTENCY


INCLUDE FILES:
--------------
  STDTYP     - STANDARD TYPE DEFINITIONS
  STDIO      - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPD        - FORM PROCESSOR DATA
  RW         - REPORT WRITER DEFINITIONS
  FPCODE     - FORM PROCESSOR RETURN CODES


ROUTINES CALLED:
----------------
  FNDATT     - FIND ATTRIBUTE
  ERROR      - ISSUE ERROR MESSAGE
  MEMSET
  MAX
  FREE
  WRTEXP     - WRITE EXPRESSION
  BLEN
  MEMCPY
  SYSMSG
  MYALLOC    - MY MALLOC
  STRLEN
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                   CHKFRM
PURPOSE:                CHECK FORM
LANGUAGE:               C
MODULE TYPE:            FUNCTION
FUNCTION TYPE:          CHAR * ()
SOURCE FILE:            FLANSP
SOURCE FILE TYPE:       .C
HOST:
SUBSYSTEM:              UI
SUBDIRECTORY:           FE
DOCUMENTATION GROUP:    FDFE/FLAN

DESCRIPTION:
------------
  SYNOPSIS
     VOID CHKFRM()

  DESCRIPTION
     CHECKS THE CURRENT FORM FOR COMPLETENESS AND CONSISTENCY


INCLUDE FILES:
--------------
  STDTYP     - STANDARD TYPE DEFINITIONS
  STDIO      - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPD        - FORM PROCESSOR DATA
  RW         - REPORT WRITER DEFINITIONS
  FPCODE     - FORM PROCESSOR RETURN CODES


ROUTINES CALLED:
----------------
  WARNING    - ISSUE WARNING MESSAGE
  ADDCHK     - ADD POSITION TO CHECK LIST
  CHKARY     - CHECK ARRAY
  ABS
  STRLEN
  FREE
  FLDTYP     - FIELD TYPE
  ERROR      - ISSUE ERROR MESSAGE
  GFLDPT     - GET FIELD POINTER
  ABS
  MAX
  STRASN
  FNDATT     - FIND ATTRIBUTE
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	CHKPRM
PURPOSE:	CHECK PARAMETER
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	BOOL ()
SOURCE FIIE:	CHKPRM
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
BOOL CHKPRM(PARAMTR,PARSIZ,RTPARM)
   CHAR PARAMTR[];
   INT  PARSIZ;
   CHAR RTPARM[];
```

INPUTS/OUTPUTS:

INPUTS:

PARAMTR - CHAR STING (NON NULL TERMINATED) CONTAINING THE PARAMETER BEING CHECKED FOR NOT BEING ENTERED.

PARSIZE - LENGTH OF CHARACTER STRING CONTAINING PARAMETER

OUTPUTS:

RTPARM - NULL TERMINATED STRING CONTAINING PARAMETER
RETURNS A BOOL FALSE IF PARAMETER IS A BLANK

DESCRIPTION

CHECKS TO MAKF SURE THAT PARAMETER HAS BEEN ENTERED BY USER AND COPYS IT INTO A NULL TERMINATED STRING PROVIDED BY CALLER

ARGUMENTS:

PARAMTR =	CHAR []
PARSIZ =	INT
RTPARM =	CHAR []

INCLUDE FILES:

STDTYP - STANDARD TYPE DEFINITIONS

```
  FPD         - FORM PROCESSOR DATA
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES

ROUTINES CALLED:
----------------
  MEMCMP
  ESCPY

CALLED DIRECTLY BY:
-------------------
  EDTMOD      - EDIT MODE
  FDFE        - FORMS DRIVEN FORM EDITOR

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                CPYFRM
PURPOSE:             COPY FORM
LANGUAGE:            C
MODULE TYPE:         FUNCTION
FUNCTION TYPE:       CHAR * ()
SOURCE FILE:         CPYFRM
SOURCE FILE TYPE:    .C
HOST:
SUBSYSTEM:           UI
SUBDIRECTORY:        FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:
------------

  SYNOPSIS
    CHAR *CPYFRM(COPFLS,COPFRM)
         ENAME COPFLS;
         ENAME COPFRM;


     INPUTS/OUTPUTS:


     INPUTS:
       COPFLS - NON NULL TERMINATED STRING CONTAINING THE NAME
                     OF FLS FILE
                FROM WHICH USER WISHES TO COPY FORM.
       COPFLS - NON NULL TERMINATED STRING CONTAINING THE NAME
                     OF THE FORM.

     OUTPUTS:
       THIS ROUTINE FILLS (AND IS THE ONLY ROUTINE WHICH
                     WRITES TO THESE
       VARIABLES) SEVERAL GLOBAL VARIABLES:
          ALTBUF - BEINING OF LINK LIST CONTAINING ALL FORMS
                     ETC. OF FLS.
          ALTFRM - POINTER TO FORM WHICH THE USER WHISH TO
                     COPY INTO THE
                   SCREEN DATA AREA.
          COPYFLS - NAME OF FLS JUST COPIED - USED TO SAVE ON
                     CALLS TO
                    GETFLS.
          COPYFRM - NAME OF FORM JUST COPIED - USED TO SAVE ON
                     CALLS TO
                    GTNMFD.

  DESCRIPTION
          THIS ROUTINE IS USED TO COPY AN FLS FILE INTO AN
                     ALTERNATE INTERNAL
          DATA STRUCTURE AND GETS THE POINTER TO THE FORM
                     INTERESTED IN.  IS
          USED BY WHLEDT AND FLDEDT TO RETRIEVE DATA
```

CONCERNING A FIELD(S)
ON A FORM NOT NOW BEING WORKED ON IN AN FLS THAT IS
NOT BEING WORKED
ON, FOR POSSIBLE INSERTION BY THE USER.

ARGUMENTS:

COPFLS =	ENAME
COPFRM =	ENAME

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS
FPCODE	- FORM PROCESSOR RETURN CODES
FPD	- FORM PROCESSOR DATA
FDFEFM	- FDFE FORM DEFINITIONS
FDFE	- FDFE DATA STRUCTURES

ROUTINES CALLED:

MEMCMP	
STRNCMP	
ESCPY	
GETFLS	- GET FDL SOURCE FILE
GTNMFD	- GET NAMED FIELD
MEMCPY	

CALLED DIRECTLY BY:

EDTFLD	- EDIT FIELD
EDTWHL	- EDIT WHOLE

USED IN MAIN PROGRAM(S):

FDFE/MAIN	- MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	CSTASH
PURPOSE:	CHARACTER STASH
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	CHAR * ()
SOURCE FILE:	FLANSP
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FE
DOCUMENTATION GROUP:	FDFE/FLAN

DESCRIPTION:

SYNOPSIS

```
CHAR *CSTASH(S)
   CHAR *S;
```

DESCRIPTION

SAVES THE SPECIFIED CHARACTER STRING AND RETURNS A
POINTER TO IT

ARGUMENTS:

S =	CHAR *

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS
STDIO	- **** PURPOSE NOT FOUND BY STRIPPER ****
FPD	- FORM PROCESSOR DATA
RW	- REPORT WRITER DEFINITIONS
FPCODE	- FORM PROCESSOR RETURN CODES

ROUTINES CALLED:

STRCPY	
STRLEN	
MYALLOC	- MY MALLOC

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	DRPFRM
PURPOSE:	DROP FORM
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	CHAR * ()
SOURCE FILE:	DRPFRM
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
CHAR *DRPFRM(FRMNAM)
     ENAME FRMNAM;
```

INPUTS/OUTPUTS:

INPUTS:

FRMNAM - NON NULL TERMINATED STRING CONTAINING THE NAME OF FORM TO BE DELETED.

OUTPUTS:

RETURNS A NULL IF FOUND THE FORM A ND DELETED IT AND RETURNS ERROR CODE IF COULD NOT FIND FORM TO DELETE.

DESCRIPTION

DELETES A FORM NAMED BY USER FROM INTERNAL DATA STRUCTURE - CALLS DELFLD TO DO ACTUAL WORK OF DELETING.

ARGUMENTS:

FRMNAM =	ENAME

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS
FPCODE	- FORM PROCESSOR RETURN CODES
FPD	- FORM PROCESSOR DATA
FDFEFM	- FDFE FORM DEFINITIONS
FDFE	- FDFE DATA STRUCTURES

```
ROUTINES CALLED:
----------------
  GTNMFD      - GET NAMED FIELD
  DELFLD

CALLED DIRECTLY BY:
-------------------
  EDTMOD      - EDIT MODE

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	DRPWHL
PURPOSE:	DROP WHOLE
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	CHAR * ()
SOURCE FILE:	DRPWHL
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
   CHAR *DRPWHL(FRMPNT,PFKEY)
        FIELD         *FRMPNT;
        INT           *PFKEY;
```

INPUTS/OUTPUTS:

INPUTS:

FRMPNT - POINTER TO FORM FROM WHICH FIELDS MARKED WILL BE DROPPED

OUTPUTS:

PFKEY - RETURNS TO CALL THE PFKEY RECEIVED FROM OISCR.

DESCRIPTION

DROPS ALL FEILDS MARKED BY USER

ARGUMENTS:

FRMPNT =	FIELD *
PFKEY =	INT *

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS
FPCODE	- FORM PROCESSOR RETURN CODES
FPPARM	- FORM PROCESSOR PARAMETERS
FPD	- FORM PROCESSOR DATA
FDFEFM	- FDFE FORM DEFINITIONS
FDFE	- FDFE DATA STRUCTURES

ROUTINES CALLED:

ADDFRM

```
  MEMCMP
  DELFLD
  GDATA
  PMSGLS
  RMVPAG
  OISCR
  MEMSET
  FLSTRC      - FIELD STRUCTURE TRANSLATION
  SPRINTF
  PDATA
  PUTATT

CALLED DIRECTLY BY:
-------------------
  EDTWHL      - EDIT WHOLE

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	EDTFLD
PURPOSE:	EDIT FIELD
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	CHAR * ()
SOURCE FILE:	EDTFLD
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

```
DESCRIPTION:
------------

  SYNOPSIS
      CHAR *EDTFLD(FRMPNT,RDONLY,MODE,ROW,COL)
          FIELD         *FRMPNT;
          BOOL          RDONLY;
          BOOL          MODE;
          INT           ROW;
          INT           COL;


     INPUTS/OUTPUTS:


     INPUTS:
       FRMPNT - POINTER TO FORM WORKING ON
       RDONLY - FLAG INDICATING WHETHER READ ONLY IS ALLOWED
                     OR NOT
       MODE   - FLAG INDICATING WHICH MODE NOW IN(LAYOUT OR
                     EDIT FIELD)
       ROW    - CURSOR POSITION COMING FROM LAYOUT (WILL BOTH
                     BE 0 IF
       COL      IN FIELD EDIT MODE.

     OUTPUTS:
       IN EDIT FIELD MODE:
          RETURNS A NULL IF QUITING
          RETURNS AN ERROR CODE IF ABNORMALLY TERMINATED
       IN LAYOUT MODE:
          RETURNS A NULL IF GOING TO LAYOUT AGAIN
          RETURNS A EXITFDFE IF QUITING
          RETURNS AN ERROR CODE IF ABNORMALLY TERMINATED
  DESCRIPTION
       THIS IS THE DRIVER MODULE FOR FIELD EDIT MODE AND THE
                     DETAILED EDIT
       MODE FOR LAYOUT. IT ALLOWS USER TO INSERT,MODIFY AND
                     DELETE FIELDS
       ONE AT A TIME AS WELL AS MODIFYING FORM INFORMATION
                     (PROMPT AND
       BACKGROUND INFORMATION) AND TO COPY FIELD DATA FROM
                     ANOTHER FORM IN
       ANTHER FLS FILE INTO SCREEN DATA AREA.

ARGUMENTS:
----------
  FRMPNT =       FIELD *
  RDONLY =       BOOL
  MODE =       BOOL
  ROW =       INT
  COL =       INT

INCLUDE FILES:
--------------
  STDIO       - **** PURPOSE NOT FOUND BY STRIPPER ****
  STDTYP      - STANDARD TYPE DEFINITIONS
  CTYPE       - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPPARM      - FORM PROCESSOR PARAMETERS
  FPCODE      - FORM PROCESSOR RETURN CODES
  FPD         - FORM PROCESSOR DATA
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES

ROUTINES CALLED:
----------------
  ADDFRM
  MEMCMP
  RMVPAG
  GDATA
  PMSGLS
  VALINP      - VALIDATE INPUT
  PMSGLC
  CPYFRM      - COPY FORM
  GNXTFD      - GET NEXT FIELD
  GFDINP      - GET FIELD INPUT
  MODFLD      - MODIFY FIELD
  INSFLD      - INSERT FIELD
  MODFRM      - MODIFY FORM
  PUTCUR
  OISCR
  PUTATT
  SPRINTF
  MEMSET
  MEMCPY
  STRLEN
  FLSTRC      - FIELD STRUCTURE TRANSLATION
  DELFLD
  PDATA
  GTCPFD      - GET USING CURSOR POSITION FIELD
  FLFMST      - FIELD TO FORM STRUCTURE TRANSLATION
```

CALLED DIRECTLY BY:

EDTMOD	- EDIT MODE
LAYOUT	- LAYOUT MODE

USED IN MAIN PROGRAM(S):

FDFE/MAIN	- MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                    EDTMOD
PURPOSE:                 EDIT MODE
LANGUAGE:                C
MODULE TYPE:             FUNCTION
FUNCTION TYPE:           CHAR * ()
SOURCE FILE:             EDTMOD
SOURCE FILE TYPE:        .C
HOST:
SUBSYSTEM:               UI
SUBDIRECTORY:            FDFE
DOCUMENTATION GROUP:     FDFE

DESCRIPTION:
------------

  SYNOPSIS
     CHAR *EDTMOD(NEWOLD,EDTFLAG)
          BOOL   NEWOLD;
          INT    EDTFLAG;


     INPUTS/OUTPUTS:


     INPUTS:
       NEWOLD - FLAG INDICATING WHETER FORM IS NEW OR AN OLD
                           FORM
       EDTFLAG - FLAG IDICATING TYPE OF EDITING CHANGE/SELECT

     OUTPUTS:
       RETURNS NULL IF QUIT KEY PRESSED
       RETURNS EXITFDFE IF EXIT OPTION CHOSE.
       RETURNS ERROR CODE IF ABNOMALLY TERMINATED

  DESCRIPTION
        MAIN DRIVER MODULE FOR EDIT MODE. IN ADDITION TO
                           ALLOWING
        USER TO CHOOSE EDIT MODE(WHOLE,FIELD,LAYOUT), USER CAN
                           VIEW
        FORM, GET LIST OF FORMS IN FLS AND SAVE (AND COMPILE)
                           SOURCE.

ARGUMENTS:
----------
  NEWOLD =        BOOL
  EDTFLAG =        INT


INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  FPPARM      - FORM PROCESSOR PARAMETERS
  FPCODE      - FORM PROCESSOR RETURN CODES
  FPD         - FORM PROCESSOR DATA
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES

ROUTINES CALLED:
----------------
  ADDFRM
  MEMCMP
  FREBUF      - FREE BUFFER
  PRSCMD      - PARSE COMMAND
  CHKPRM      - CHECK PARAMETER
  MEMSET
  GDATA
  PMSGLS
  RMVPAG
  SAVFLS      - SAVE FDL SOURCE
  DRPFRM      - DROP FORM
  INSFRM      - INSERT FORM
  LAYOUT      - LAYOUT MODE
  EDTFLD      - EDIT FIELD
  EDTWHL      - EDIT WHOLE
  GTNMFD      - GET NAMED FIELD
  LISTFM      - LIST FORMS
  OISCR
  PUTATT
  PDATA

CALLED DIRECTLY BY:
-------------------
  FDFE        - FORMS DRIVEN FORM EDITOR

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	EDTWHL
PURPOSE:	EDIT WHOLE
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	CHAR * ()
SOURCE FILE:	EDTWHL
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
   CHAR *EDTWHL(FRMPNT,RDONLY)
        FIELD        *FRMPNT;
        BOOL          RDONLY;
```

INPUTS/OUTPUTS:

INPUTS:
FRMPNT - POINTS TO FORM WORKING ON
RDONLY - FLAG INDICATING WHETHER OR NOT IN READ ONLY MODE

OUTPUTS:
RETURNS A ERROR CODE IF EXIT ABNORMALLY
RETURNS A NULL IF EXIT NORMALLY

DESCRIPTION
THIS MODULE IS THE MAIN DRIVER MODULE FOR WHOLE EDT MODE

ARGUMENTS:

FRMPNT =	FIELD *
RDONLY =	BOOL

INCLUDE FILES:

STDTYP - STANDARD TYPE DEFINITIONS
FPPARM - FORM PROCESSOR PARAMETERS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

ROUTINES CALLED:

MEMSET	
CPYFRM	- COPY FORM
FLWHST	- FILL WHOLE STRUCTURE
DRPWHL	- DROP WHOLE
ADDFRM	
MEMCMP	
GDATA	
PMSGLS	
RMVPAG	
GWHINP	- GET WHOLE INPUT
PMSGLC	
MODFRM	- MODIFY FORM
MODWHL	- MODIFY WHOLE
INSWHL	- INSERT WHOLE
VALINP	- VALIDATE INPUT
OISCR	
PUTATT	
SPRINTF	
MEMCPY	
STRLEN	
FLFMST	- FIELD TO FORM STRUCTURE TRANSLATION
PDATA	

CALLED DIRECTLY BY:

EDTMOD	- EDIT MODE

USED IN MAIN PROGRAM(S):

FDFE/MAIN	- MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	ERROR
PURPOSE:	ISSUE ERROR MESSAGE
LANGUAGE:	C
MODULE TYPE:	SUBROUTINE
FUNCTION TYPE:	VOID ()
SOURCE FILE:	FLANERR
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
VOID ERROR(S, A, B, C, D, E, F)
   CHAK *S, *A, *B, *C, *D, *E, *F;
```

DESCRIPTION

PRINTS AN ERROR MESSAGE ON STDERR AND INCREMENTS THE NUMBER OF ERRORS

ARGUMENTS:

S =	CHAR *
A =	CHAR *
B =	CHAR *
C =	CHAR *
D =	CHAR *
E =	CHAR *
F =	CHAR *

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS

ROUTINES CALLED:

PMSGLS
STRLEN
SPRINTF

CALLED DIRECTLY BY:

CHKFLD	- CHECK FIELD
CHKFRM	- CHECK FORM
ADDCHK	- ADD POSITION TO CHECK LIST

USED IN MAIN PROGRAM(S):

CHKFLD	- CHECK FIELD
CHKFRM	- CHECK FORM

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	EXPAND
PURPOSE:	EXPAND AN ARRAY
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	CHAR * ()
SOURCE FILE:	EXPAND
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

```
DESCRIPTION:
------------

  SYNOPSIS
      CHAR *EXPAND(FDP, USELST)
          FIELD *FDP;
          FIELD **USELST;


     INPUTS:
          FIELD *FDP;  ** THE FORM YOU WISH EXPANDED **
          FIELD **USELST; ** WHERE TO LOOK FOR EXPANDING
                     SUBFORMS


  DESCRIPTION
      THIS GUY IS RESPOSIBLE FOR EXPANDING AN ARRAY WHICH WAS
                     PARTIALLY
      CONSTRUCTED BY FLAN. IT TAKES A POINTER TO THE FORM TO
                     BE EXPANDED
      AND A POINTER TO THE POINTER TO THE LIST FROM WHICH
                     SUBFORMS MAY BE
      TAKEN. IF A SUBFORM IS NOT FOUND THE FIELD'S DISPLAY
                     ATTRIBUTE IS
      SET TO INPUT. THE CASE WHERE BOTH A FIELD AND THE
                     SUBFORM HAVE
      PROMPTS IS RESOLVED BE CREATING A SPECIAL FIELD TO HOLD
                     THE FIELD'S
      PROMPTS. USELST MUST BE A POINTER TO A POINTER BECAUSE
                     DELFLD IS USED
      AND THAT'S WHAT IT NEEDS.

ARGUMENTS:
----------
  FDP =       FIELD *
  USELST =       FIELD **
```

```
INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  FPD         - FORM PROCESSOR DATA
  FPCODE      - FORM PROCESSOR RETURN CODES

ROUTINES CALLED:
----------------
  RSVATT
  FNDATT      - FIND ATTRIBUTE
  ABS
  COPFLD
  EXPAND/FIXFRM - FIX UP A FORM

CALLED DIRECTLY BY:
-------------------
  EXPAND/FIXFRM - FIX UP A FORM
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	EXPAND/FIXFRM
PURPOSE:	FIX UP A FORM
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	CHAR * ()
SOURCE FILE:	EXPAND
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

FIXES A SUBFORM BY LOCATING IT AND ATTACHING IT IN PLACE AND EXPANDING IT IF REQUIRED.
NOTE: FIELDS WITH PROMPTS AND SUBFORMS WITH PROMPTS CAUSE A SPECIAL FIELD TO BE CREATED.

ARGUMENTS:

NDP = FIELD **
USELST = FIELD **

INCLUDE FILES:

STDTYP - STANDARD TYPE DEFINITIONS
FPD - FORM PROCESSOR DATA
FPCODE - FORM PROCESSOR RETURN CODES

ROUTINES CALLED:

EXPAND - EXPAND AN ARRAY
DELFLD
RSVATT
FNDATT - FIND ATTRIBUTE
COPFLD
STRCMP

CALLED DIRECTLY BY:

EXPAND - EXPAND AN ARRAY

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	FATAL
PURPOSE:	ISSUE FATAL ERROR MESSAGE
LANGUAGE:	C
MODULE TYPE:	SUBROUTINE
FUNCTION TYPE:	VOID ()
SOURCE FILE:	FLANERR
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
VOID FATAL(S, A, B, C, D, E, F)
   CHAR *S, *A, *B, *C, *D, *E, *F;
```

DESCRIPTION

PRINTS A FATAL MESSAGE ON STDERR AND EXITS

ARGUMENTS:

S =	CHAR *
A =	CHAR *
B =	CHAR *
C =	CHAR *
D =	CHAR *
E =	CHAR *
F =	CHAR *

INCLUDE FILES:

STDTYP - STANDARD TYPE DEFINITIONS

ROUTINES CALLED:

SPRINTF
STRLEN
PMSGLS

CALLED DIRECTLY BY:

MYALLOC - MY MALLOC

USED IN MAIN PROGRAM(S):

CHKFLD - CHECK FIELD
CHKFRM - CHECK FORM

CSTASH	- CHARACTER STASH
MAKINT	- MAKE EXPRESSION INTO AN INTEGER
MAKSTR	- MAKE EXPRESSION INTO A STRING
MKPOS	- MAKE POSITION NODE

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	FDFE
PURPOSE:	FORMS DRIVEN FORM EDITOR
LANGUAGE:	C
MODULE TYPE:	SUBROUTINE
FUNCTION TYPE:	VOID ()
SOURCE FILE:	FDFE
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

LANGUAGE: C

DESCRIPTION:

DESCRIPTION
MAIN INCLUDE FILE FOR FDFE

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS
FPPARM	- FORM PROCESSOR PARAMETERS
FPCODE	- FORM PROCESSOR RETURN CODES
FPD	- FORM PROCESSOR DATA
FDFEFM	- FDFE FORM DEFINITIONS
FDFE	- FDFE DATA STRUCTURES
FDFEINI	- FDFE INITIALIZATIONS
FPDINI	- FPD INITIALIZATION
NTM	- NTM INTERFACE INCLUDE FILE

ROUTINES CALLED:

RMVPAG	
VIEW	- VIEW A FORM
RENAME	
COPY	
GETFLS	- GET FDL SOURCE FILE
EDTMOD	- EDIT MODE
UNLINK	
FCLOSE	
FOPEN	
STRLEN	
MEMCPY	
ACCESS	
ADDEXT	- ADD EXTENSION TO FILE_NAME
LISTIT	- LIST IT
SPRINTF	

```
  CHKPRM      - CHECK PARAMETER
  PRSCMD      - PARSE COMMAND
  GDATA
  OISCR
  PMSGLS
  PUTATT
  MEMCMP
  ADDFRM
  MEMSET

CALLED DIRECTLY BY:
-------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                   FDFE/MAIN
PURPOSE:                MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR
                        (FDFE)
LANGUAGE:               C
MODULE TYPE:            FUNCTION
FUNCTION TYPE:          INT ()
SOURCE FILE:            FDFE
SOURCE FILE TYPE:       .C
HOST:
SUBSYSTEM:              UI
SUBDIRECTORY:           FDFE
DOCUMENTATION GROUP:    FDFE

DESCRIPTION:
------------

  SYNOPSIS
     FDFE()


     INPUTS/OUTPUTS:
          NONE

     INPUTS:


     OUTPUTS:


  DESCRIPTION
        MAIN DRIVER MODULE FOR THE FORMS DRIVEN FORMS EDITOR.
                     IT ALLOWS
        USER TO CHOOSE AMONG SEVERAL FILE MANAGEMENT OPTIONS
                     AS WELL AS
        EDIT MODES.

INCLUDE FILES:
--------------
  STDTYP     - STANDARD TYPE DEFINITIONS
  FPPARM     - FORM PROCESSOR PARAMETERS
  FPCODE     - FORM PROCESSOR RETURN CODES
  FPD        - FORM PROCESSOR DATA
  FDFEFM     - FDFE FORM DEFINITIONS
  FDFE       - FDFE DATA STRUCTURES
  FDFEINI    - FDFE INITIALIZATIONS
  FPDINI     - FPD INITIALIZATION
  NTM        - NTM INTERFACE INCLUDE FILE

ROUTINES CALLED:
----------------
  INITAL
```

MEMCMP
INITFP
FDFE - FORMS DRIVEN FORM EDITOR
TERMFP
TRMNAT

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                  FIFDST
PURPOSE:               FILL IN FIELD STRUCTURE
LANGUAGE:              C
MODULE TYPE:           FUNCTION
FUNCTION TYPE:         CHAR * ()
SOURCE FILE:           FIFDST
SOURCE FILE TYPE:      .C
HOST:
SUBSYSTEM:             UI
SUBDIRECTORY:          FDFE
DOCUMENTATION GROUP: FDFE
```

DESCRIPTION:

```
  SYNOPSIS
    CHAR *FIFDST(FLDPNT,FLDNAM,ROW,COL,WDTH,DPTH,FLDTYP,ATTNAM)
            FIELD  *FLDPNT;
            ENAME  FLDNAM;
            INT    ROW;
            INT    COL;
            INT    WDTH;
            INT    DPTH;
            CHAR   FLDTYP[1];
            ENAME  ATTNAM;


     INPUTS/OUTPUTS:


     INPUTS:
       FLDNAM - NAME OF FIELD CONCERNED
       ROW    - ROW OF FIELD CONCERNED
       COL    - COL OF FIELD CONCERNED
       WDTH   - WIDTH OF FIELD CONCERNED
       DPTH   - DEPTH OF FIELD CONCERNED
       FLDTYP - TYPE OF FIELD CONCERNED
       ATTNAM - ATTRIBUTE NAME OF FIELD CONCERNED

     OUTPUTS:
       NONE - BUT MODIFIES INTERNAL DATA STRUCTURE.

  DESCRIPTION
        THIS MODULE FILL IN THE FILD INFORMATION PASSED IT BY
                    CALLER.
```

ARGUMENTS:

```
  FLDPNT =       FIELD *
  FLDNAM =       ENAME
  ROW =       INT
  COL =       INT
  WDTH =       INT
  DPTH =        INT
  FLDTYP =        CHAR [1]
  ATTNAM =        ENAME

INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  FPD         - FORM PROCESSOR DATA

ROUTINES CALLED:
----------------
  ESCPY
  GATDEF

CALLED DIRECTLY BY:
-------------------
  MODFLD      - MODIFY FIELD
  MODFRM      - MODIFY FORM

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	FLANCI
PURPOSE:	FLAN CALLABLE INTERFACE
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	CHAR * ()
SOURCE FILE:	FLANSP
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FE
DOCUMENTATION GROUP:	FDFE/FLAN

DESCRIPTION:

SYNOPSIS

```
CHAR *FLANCI(FPTR)
   FILE *FPTR;
```

INPUTS:

FPTR - FILE TO BE COMPILED

DESCRIPTION

COMPILES THE SPECIFIED FILE INTO THE LOCAL OPEN LIST.

ARGUMENTS:

FPTR = FILE *

INCLUDE FILES:

STDTYP - STANDARD TYPE DEFINITIONS
STDIO - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
RW - REPORT WRITER DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES

ROUTINES CALLED:

YYPARSE
DELFLD

CALLED DIRECTLY BY:

GETFLS - GET FDL SOURCE FILE
SAVFLS - SAVE FDL SOURCE

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	FLDTYP
PURPOSE:	FIELD TYPE
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	CHAR * ()
SOURCE FILE:	FLANSP
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FE
DOCUMENTATION GROUP:	FDFE/FLAN

DESCRIPTION:

SYNOPSIS

```
CHAR *FLDTYP(C)
   CHAR C;
```

DESCRIPTION

RETURNS A STRING OF THE SPECIFIED FIELD TYPE

ARGUMENTS:

C =	CHAR

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS
STDIO	- **** PURPOSE NOT FOUND BY STRIPPER ****
FPD	- FORM PROCESSOR DATA
RW	- REPORT WRITER DEFINITIONS
FPCODE	- FORM PROCESSOR RETURN CODES

CALLED DIRECTLY BY:

CHKFRM	- CHECK FORM
ADDCHK	- ADD POSITION TO CHECK LIST

USED IN MAIN PROGRAM(S):

CHKFRM	- CHECK FORM

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                   FLFMST
PURPOSE:                FIELD TO FORM STRUCTURE TRANSLATION
LANGUAGE:               C
MODULE TYPE:            SUBROUTINE
FUNCTION TYPE:          VOID ()
SOURCE FILE:            FLFMST
SOURCE FILE TYPE:       .C
HOST:
SUBSYSTEM:              UI
SUBDIRECTORY:           FDFE
DOCUMENTATION GROUP:    FDFE

DESCRIPTION:
------------

  SYNOPSIS
       VOID FLFMST(DP, FP)
          FIELD *DP;
          STRUCT FRMINFO *FP;

     INPUTS:
       FIELD *DP; ** INPUT FPD FORM FIELD **
       STRUCT FRMINFO *FP; ** OUTPUT DISPLAY FORM **


  DESCRIPTION
      TRANSLATE FPD FIELD (DP) TO A FRMINFO (FP).

ARGUMENTS:
----------
  DP =        FIELD *
  FP =        STRUCT FRMINFO *


INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  FPD         - FORM PROCESSOR DATA
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES


ROUTINES CALLED:
----------------
  SPRINTF
  MEMSET


CALLED DIRECTLY BY:
-------------------
  EDTFLD      - EDIT FIELD
  EDTWHL      - EDIT WHOLE
  TRNSCR      - TRANSLATE SCREEN TO STRUCTURE
```

```
USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN  - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	FLSTRC
PURPOSE:	FIELD STRUCTURE TRANSLATION
LANGUAGE:	C
MODULE TYPE:	SUBROUTINE
FUNCTION TYPE:	VOID ()
SOURCE FILE:	FLSTRC
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

```
SYNOPSIS
  VOID FLSTRC(DP, COM, HELP, VAL, CHKS)
     FIELD *DP;
     STRUCT COMINFO *COM;
     STRUCT ITMHELP *HELP;
     STRUCT ITMVAL  *VAL;
     STRUCT ITMCHKS *CHKS;

    INPUTS:
     FIELD *DP; ** INPUT FIELD TO BE TRANSLATED **
     STRUCT COMINFO *COM; ** OUTPUT COMINFO/FLDINFO **
     STRUCT ITMHELP *HELP; ** OUTPUT ITMHELP **
     STRUCT ITMVAL  *VAL; ** OUTPUT ITMVAL **
     STRUCT ITMCHKS *CHKS; ** OUTPUT ITMCHKS **

DESCRIPTION
   TRANSLATES AN FPD FIELD TO COMINFO/FLDINFO(COM)
                   STRUCTURE, ITMHELP(HELP)
   STRUCTURE, ITMVAL(VAL) STRUCTURE, AND ITMCHKS(CHKS)
                   STRUCTURE.
```

ARGUMENTS:

DP =	FIELD *
COM =	STRUCT COMINFO *
HELP =	STRUCT ITMHELP *
VAL =	STRUCT ITMVAL *
CHKS =	STRUCT ITMCHKS *

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS
FPD	- FORM PROCESSOR DATA
FDFEFM	- FDFE FORM DEFINITIONS
FDFE	- FDFE DATA STRUCTURES

ROUTINES CALLED:

- SPRINTF
- MEMSET
- MEMCPY
- BLEN
- STRCPY

CALLED DIRECTLY BY:

DRPWHL	-	DROP WHOLE
EDTFLD	-	EDIT FIELD
FLWHST	-	FILL WHOLE STRUCTURE
TRNSCR	-	TRANSLATE SCREEN TO STRUCTURE

USED IN MAIN PROGRAM(S):

FDFE/MAIN	-	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	FLWHST
PURPOSE:	FILL WHOLE STRUCTURE
LANGUAGE:	C
MODULE TYPE:	SUBROUTINE
FUNCTION TYPE:	VOID ()
SOURCE FILE:	FLWHST
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

```
  SYNOPSIS
     VOID FLWHST(FRMPNT)
          FIELD        *FRMPNT;


     INPUTS/OUTPUTS:


     INPUTS:
       FRMPNT - POINTER TO FORM FROM WHICH INFORMATION WILL
                     RETIEVED AND
       AND PUT IN SCREEN DATA AREA.

     OUTPUTS:
       NONE - BUT DOES FILL EXTERNAL SCREEN DATA AREA AND
                     EXTERNAL ARAY OF
       POINTERS.

  DESCRIPTION
       THIS MODULE CALLS FLSTRC FOR EACH FIELD IN FORM AND
                     STORES POINTER TO
       FIELD IN PNTARY WHICH IS A GLOBAL ARRAY USEDED TO
                     ASSOCIATE EACH FIELD
       ON SCREEN WITH ITS INTERNAL STRUCTURE.
```

ARGUMENTS:

FRMPNT =	FIELD *

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS
FPD	- FORM PROCESSOR DATA
FDFEFM	- FDFE FORM DEFINITIONS
FDFE	- FDFE DATA STRUCTURES

```
ROUTINES CALLED:
----------------
  MEMSET
  FLSTRC      - FIELD STRUCTURE TRANSLATION

CALLED DIRECTLY BY:
-------------------
  EDTWHL      - EDIT WHOLE

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	FNDATT
PURPOSE:	FIND ATTRIBUTE
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	ATTMAP * ()
SOURCE FILE:	FLANSP
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FE
DOCUMENTATION GROUP:	FDFE/FLAN

DESCRIPTION:

SYNOPSIS

```
ATTMAP    *FNDATT(S)
   CHAR *S;
```

DESCRIPTION

RETURNS A POINTER TO THE SPECIFIED ATTRIBUTE IN THE ATTRIBUTE MAP

ARGUMENTS:

S =	CHAR *

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS
STDIO	- **** PURPOSE NOT FOUND BY STRIPPER ****
FPD	- FORM PROCESSOR DATA
RW	- REPORT WRITER DEFINITIONS
FPCODE	- FORM PROCESSOR RETURN CODES

ROUTINES CALLED:

STRCMP

CALLED DIRECTLY BY:

EXPAND/FIXFRM	- FIX UP A FORM
EXPAND	- EXPAND AN ARRAY
VALINP/CCKFRM	- CHECK FORM
VALINP/CCKFLD	- CHECK FIELD
CHKFLD	- CHECK FIELD
CHKFRM	- CHECK FORM

```
USED IN MAIN PROGRAM(S):
------------------------
  CHKFLD      - CHECK FIELD
  CHKFRM      - CHECK FORM
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                     FREBUF
PURPOSE:                  FREE BUFFER
LANGUAGE:                 C
MODULE TYPE:              SUBROUTINE
FUNCTION TYPE:            VOID ()
SOURCE FILE:              FREBUF
SOURCE FILE TYPE:         .C
HOST:
SUBSYSTEM:                UI
SUBDIRECTORY:             FDFE
DOCUMENTATION GROUP:      FDFE

DESCRIPTION:
------------

  SYNOPSIS
     VOID FREBUF(BUFPNT)
          FIELD **BUFPNT;


     INPUTS/OUTPUTS:


     INPUTS:
       BUFPNT - ADDRESS OF BUFFER TO BE DELETED

     OUTPUTS:
       NONE

  DESCRIPTION
       THIS MODULE CALLS DELFLD FOR ALL FIELDS IN A
                      BUFFER(ALTBUF
       OR WRKBUF).

ARGUMENTS:
----------
  BUFPNT =       FIELD **


INCLUDE FILES:
--------------
  STDTYP     - STANDARD TYPE DEFINITIONS
  FPD        - FORM PROCESSOR DATA
  FDFEFM     - FDFE FORM DEFINITIONS
  FDFE       - FDFE DATA STRUCTURES


ROUTINES CALLED:
----------------
  DELFLD
```

```
CALLED DIRECTLY BY:
-------------------
  EDTMOD      - EDIT MODE
  GETFLS      - GET FDL SOURCE FILE

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                  GETFLS
PURPOSE:               GET FDL SOURCE FILE
LANGUAGE:              C
MODULE TYPE:           FUNCTION
FUNCTION TYPE:         CHAR * ()
SOURCE FILE:           GETFLS
SOURCE FILE TYPE:      .C
HOST:
SUBSYSTEM:             UI
SUBDIRECTORY:          FDFE
DOCUMENTATION GROUP:   FDFE

DESCRIPTION:
------------

  SYNOPSIS
      CHAR *GETFLS(FRMNAM, PDP)
         CHAR FRMNAM[];
         FIELD **PDP;

     INPUTS:
       CHAR FRMNAM[]; ** THE NAME OF THE FILE CONTAINING THE
                     FDL SOURCE
                          THERE IS NO FILE EXTENSION **

     OUTPUTS:
       FIELD **PDP; ** A POINTER WHICH IS TO BE SET TO THE
                     'OPENED' FORMS

  DESCRIPTION
    GIVEN A FORM NAME OPENS THE FDL SOURCE FILE AND CALLS
                     FLANCI TO CREATE
    AN FPD STRUCTURE.

ARGUMENTS:
----------
  FRMNAM =       CHAR []
  PDP =       FIELD **


INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  STDIO       - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPD         - FORM PROCESSOR DATA
  FPCODE      - FORM PROCESSOR RETURN CODES
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES


ROUTINES CALLED:
----------------
  FREBUF      - FREE BUFFER
  ESCPY
  SPRINTF
  STRRCHR
  STRCAT
  FOPEN
  SYSMSG
  BLEN
  MEMSET
  MEMCPY
  FLANCI      - FLAN CALLABLE INTERFACE
  FCLOSE
  GETFLS/TREEXP - TREE EXPRESSION
  MAX
  STRLEN
  MALLOC

CALLED DIRECTLY BY:
-------------------
  CPYFRM      - COPY FORM
  FDFE        - FORMS DRIVEN FORM EDITOR

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                   GETFLS/TREEXP
PURPOSE:                TREE EXPRESSION
LANGUAGE:               C
MODULE TYPE:            SUBROUTINE
FUNCTION TYPE:          VOID ()
SOURCE FILE:            GETFLS
SOURCE FILE TYPE:       .C
HOST:
SUBSYSTEM:              UI
SUBDIRECTORY:           FDFE
DOCUMENTATION GROUP:    FDFE

DESCRIPTION:
------------
  STATIC VOID TREEXP(STR, EP)
     CHAR STR[];
     ENODE *EP;

  CREATES AN ALGEBRAIC EXPRESSION GIVEN ITS SYNTATIC TREE
                      REPRESENTATION.
  THIS PROCEDURE IS ALSO USED BY GETFLS WHEN FETCHING SOURCE
                      FORMS.

ARGUMENTS:
----------
  STR =        CHAR []
  EP =        ENODE *


INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  STDIO       - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPD         - FORM PROCESSOR DATA
  FPCODE      - FORM PROCESSOR RETURN CODES
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES


ROUTINES CALLED:
----------------
  PREC        - PRECEDENCE
  SPRINTF
  GETFLS/TREEXP - TREE EXPRESSION
  STRCAT


CALLED DIRECTLY BY:
-------------------
  GETFLS/TREEXP - TREE EXPRESSION
  GETFLS      - GET FDL SOURCE FILE
```

```
USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN  - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	GETLEN
PURPOSE:	GET LENGTH
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	INT ()
SOURCE FILE:	GETLEN
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
INT GETLEN(BUF,BUFLEN)
     CHAR         BUF[];
     REGISTER INT BUFLEN;
```

INPUTS/OUTPUTS:

```
INPUTS:
  BUF    - NON NULL TERMINATED STRING THE 'NON BLANK'
                LENGTH OF WHICH
           IS RETURNED
  BUFLEN - ACTUAL LENGTH OF BUFFER
OUTPUTS:
  LENGTH (NON BLANK) OF STRING IS RETURNED
```

DESCRIPTION

THIS MODULE RETURNS THE "NON BLANK" LENGTH OF A NON NULL TERMINATED STRING.

ARGUMENTS:

BUF =	CHAR []
BUFLEN =	INT

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS

CALLED DIRECTLY BY:

GITMD	- GET ITEM DATA AND INSERT IN STRUCTURE
GTFDTX/GTXINF	- GET TEXT INFORMATION
MODFRM	- MODIFY FORM

```
USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN  - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	GFDINP
PURPOSE:	GET FIELD INPUT
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	CHAR * ()
SOURCE FILE:	GFDINP
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
CHAR *GFDINP(PFKEY,FRMPNT,FLDPNT)
    FIELD          *FRMPNT;
    FIELD          *FLDPNT;
    INT            *PFKEY;
```

INPUTS/OUTPUTS:

INPUTS:
FRMPNT - FORM WORKING ON
FLDPNT - FIELD WORKING ON

OUTPUTS:
PFKEY - RETURN TO CALLER PFKE RECEIVED FROM OISCR
RETRUNS NULL IF NOMALLY TERMINATED AND AN ERRROR CODE IF ABNORMALLY TERMINATED

DESCRIPTION

THIS MODULE GETS INPUT UPPERCASES FIELDS WHICH MUST BE UPPER CASE
AND CALLS VALINP IF PFKEY IS ENTER AND IF TASK = INSERT OR MODIFY.

ARGUMENTS:

PFKEY =	INT *
FRMPNT =	FIELD *
FLDPNT =	FIELD *

INCLUDE FILES:

STDTYP - STANDARD TYPE DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES
FPPARM - FORM PROCESSOR PARAMETERS

```
  FPD         - FORM PROCESSOR DATA
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES

ROUTINES CALLED:
----------------
  PDATA
  MEMCMP
  VALINP      - VALIDATE INPUT
  GDATA
  OISCR
  SPRINTF

CALLED DIRECTLY BY:
-------------------
  EDTFLD      - EDIT FIELD

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                  GFLDPT
PURPOSE:               GET FIELD POINTER
LANGUAGE:              C
MODULE TYPE:           FUNCTION
FUNCTION TYPE:         FIELD * ()
SOURCE FILE:           FLANSP
SOURCE FILE TYPE:      .C
HOST:
SUBSYSTEM:             UI
SUBDIRECTORY:          FE
DOCUMENTATION GROUP:   FDFE/FLAN

DESCRIPTION:
------------
  SYNOPSIS
     FIELD *GFLDPT(FLDPTR, S)
        FIELD *FLDPTR;
        CHAR  *S;

  DESCRIPTION
     RETURN A POINTER TO THE NAMED FIELD ON THE SPECIFIED FORM.

ARGUMENTS:
----------
  FLDPTR =       FIELD *
  S =       CHAR *


INCLUDE FILES:
--------------
  STDTYP     - STANDARD TYPE DEFINITIONS
  STDIO      - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPD        - FORM PROCESSOR DATA
  RW         - REPORT WRITER DEFINITIONS
  FPCODE     - FORM PROCESSOR RETURN CODES


ROUTINES CALLED:
----------------
  STRCMP


CALLED DIRECTLY BY:
-------------------
  CHKFRM     - CHECK FORM


USED IN MAIN PROGRAM(S):
------------------------
  CHKFRM     - CHECK FORM
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                   GITMD
PURPOSE:                GET ITEM DATA AND INSERT IN STRUCTURE
LANGUAGE:               C
MODULE TYPE:            FUNCTION
FUNCTION TYPE:          CHAR * ()
SOURCE FILE:            GITMD
SOURCE FILE TYPE:       .C
HOST:
SUBSYSTEM:              UI
SUBDIRECTORY:           FDFE
DOCUMENTATION GROUP:    FDFE

DESCRIPTION:
------------

  SYNOPSIS
     CHAR *GITMD (FLDPNT,ITMHLP,ITMVAL,ITMCHKS)
         FIELD          *FLDPNT;
         CHAR           *ITMHLP;
         CHAR           *ITMVAL;
         STRUCT ITMCHKS *ITMCHKS;


     INPUTS/OUTPUTS:


     INPUTS:
       FLDPNT - FIELD IN WHICH PUTTING INFORMATION RECIEVED
                      FROM USER
       ITMHLP - HELP LINE INPUT BY USER
       ITMVAL - ITEM DEFAULT VALUE INPUT BY USER
       ITMCHKS - CHECKING DESIRED BY USER

     OUTPUTS:
       RETURNS ERROR CODE IF ABNORMAL TERMINATION
       RETURNS NULL IF NORMAL TERMINATION

  DESCRIPTION
       THIS MODULE INSERTS DESIRED CHANGES INTO ITEM DATA
                      STRUCTURE OF
       INTERNAL DATA STRUCTURE

ARGUMENTS:
----------
  FLDPNT =        FIELD *
  ITMHLP =        CHAR *
  ITMVAL =        CHAR *
  ITMCHKS =        STRUCT ITMCHKS *


INCLUDE FILES:
--------------
  STDIO       - **** PURPOSE NOT FOUND BY STRIPPER ****
  STDTYP     - STANDARD TYPE DEFINITIONS
  CTYPE      - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPPARM     - FORM PROCESSOR PARAMETERS
  FPCODE     - FORM PROCESSOR RETURN CODES
  FPD        - FORM PROCESSOR DATA
  FDFEFM     - FDFE FORM DEFINITIONS
  FDFE       - FDFE DATA STRUCTURES

ROUTINES CALLED:
----------------
  FREE
  MAX
  GETLEN     - GET LENGTH
  MALLOC
  SYSMSG
  ESCPY
  MEMDGT
  MATOI
  BLEN
  MEMSET
  MEMCPY
  MIN
  MEMCMP

CALLED DIRECTLY BY:
-------------------
  INSFLD     - INSERT FIELD
  MODFLD     - MODIFY FIELD

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN  - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                    GNXTFD
PURPOSE:                 GET NEXT FIELD
LANGUAGE:                C
MODULE TYPE:             FUNCTION
FUNCTION TYPE:           FIELD * ()
SOURCE FILE:             GNXTFD
SOURCE FILE TYPE:        .C
HOST:
SUBSYSTEM:               UI
SUBDIRECTORY:            FDFE
DOCUMENTATION GROUP:     FDFE

DESCRIPTION:
------------

  SYNOPSIS
    FIELD *GNXTFD(FRMPNT,FLDPNT,PFKEY)
         FIELD  *FRMPNT;
         FIELD  *FLDPNT;
         INT    PFKEY;


     INPUTS/OUTPUTS:


     INPUTS:
       FRMPNT - POINTER TO FORM WORKING ON
       FLDPNT - CURRENT FIELD POINTER
       PFKEY  - PFKEY PASSED BY CALLER FROM OISCR

     OUTPUTS:
       RETURNS - POINTER TO NEXT FIELD IF FOUND
       RETURNS - NULL IF NO FIELD FOUND

  DESCRIPTION
       THIS MODULE GETS THE NEXT FIELD TO BE VIEWED OR WORKED
                     ON
       USING USER INPUT

ARGUMENTS:
----------
  FRMPNT =       FIELD *
  FLDPNT =       FIELD *
  PFKEY =       INT


INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  FPCODE      - FORM PROCESSOR RETURN CODES
  FPD         - FORM PROCESSOR DATA
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES
```

```
ROUTINES CALLED:
----------------
  MEMCMP
  GTNMFD       - GET NAMED FIELD
  GNXTFD/NXTFLD - NEXT FIELD

CALLED DIRECTLY BY:
-------------------
  EDTFLD       - EDIT FIELD

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN    - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	GNXTFD/NXTFLD
PURPOSE:	NEXT FIELD
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	FIELD * ()
SOURCE FILE:	GNXTFD
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
STATIC FIELD *NXTFLD(FLDPNT, TYP, DRCTN)
    FIELD *FLDPNT;
    CHAR  TYP;
    CHAR  DRCTN;
```

INPUTS/OUTPUTS:

INPUTS:

```
FLDPNT - CURRENT FIELD POINTER
TYP    - TYPE OF FIELD INTERESTED IN
DRCTN  - DIRECTION WANT TO SEARCH
```

OUTPUTS:

```
RETURNS - POINTER TO NEXT FIELD IF FOUND
RETURNS - NULL IF NO FIELD FOUND
```

DESCRIPTION

THIS MODULE GETS THE NEXT FIELD OF A SPECIFIED TYPE SEARCHING IN A SPECIFIED DIRECTION TO BE VIEWED OR WORKED ON.

ARGUMENTS:

FLDPNT =	FIELD *
TYP =	CHAR
DRCTN =	CHAR

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS
FPCODE	- FORM PROCESSOR RETURN CODES
FPD	- FORM PROCESSOR DATA
FDFEFM	- FDFE FORM DEFINITIONS
FDFE	- FDFE DATA STRUCTURES

```
ROUTINES CALLED:
----------------
  GNXTFD/NXTFLD - NEXT FIELD

CALLED DIRECTLY BY:
-------------------
  GNXTFD/NXTFLD - NEXT FIELD
  GNXTFD      - GET NEXT FIELD

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	GTCPFD
PURPOSE:	GET USING CURSOR POSITION FIELD
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	FIELD * ()
SOURCE FILE:	GTCPFD
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
FIELD *GTCPFD(FRMPNT,ROW,COL)
    FIELD *FRMPNT;
    INT   ROW;
    INT   COL;
```

INPUTS/OUTPUTS:

```
INPUTS:
  FRMPNT - POINTER TO FORM WORKING ON
  ROW    - CURSOR POSITION OF DESIRED FIELD
  COL
OUTPUTS:
  RETURNS A POINTER TO FIELD AT INDICATED LOCATION IF ONE
  RETURNS A NULL IF NO FIELD FOUND
```

DESCRIPTION

THIS MODULE RETURNS A POINTER TO FIELD AT ROW AND COL GIVEN BY CALLER

ARGUMENTS:

FRMPNT =	FIELD *
ROW =	INT
COL =	INT

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS
FPD	- FORM PROCESSOR DATA

```
CALLED DIRECTLY BY:
-------------------
  EDTFLD      - EDIT FIELD
  SCRMAN/CHGPOS - CHANG POSITION
  TRNSCR      - TRANSLATE SCREEN TO STRUCTURE

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                    GTFDTX
PURPOSE:                 GET FIELD TEXT
LANGUAGE:                C
MODULE TYPE:             FUNCTION
FUNCTION TYPE:           CHAR * ()
SOURCE FILE:             GTFDTX
SOURCE FILE TYPE:        .C
HOST:
SUBSYSTEM:               UI
SUBDIRECTORY:            FDFE
DOCUMENTATION GROUP:     FDFE

DESCRIPTION:
------------

  SYNOPSIS
     CHAR *GTFDTX(FLDPNT,COMINFO)
         FIELD *FLDPNT;
         STRUCT COMINFO *COMINFO;

     INPUTS/OUTPUTS:


     INPUTS:
       FLDPNT  - POINTER TO FIELD WORKING ON
       COMINFO - POINTER TO STRUCTURE CONTAINING USER INPUT
     OUTPUTS:
       RETURNS NULL IF TERNIMATED NORMALLY
       RETURNS ERROR CODE IF TERMINATED ABNORMALLY

  DESCRIPTION
       THIS MODULE GETS TEXT FIELDS AND INSERTS THEM INTO
                     INTERNAL STRUCTRUE
       OF FIELD CONCERNED.

ARGUMENTS:
----------
  FLDPNT =       FIELD *
  COMINFO =       STRUCT COMINFO *


INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  FPCODE      - FORM PROCESSOR RETURN CODES
  FPD         - FORM PROCESSOR DATA
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES


ROUTINES CALLED:
----------------
  FREE
  GTFDTX/GTXINF - GET TEXT INFORMATION
  MALLOC
  SYSMSG
  ESCPY

CALLED DIRECTLY BY:
-------------------
  INSFLD     - INSERT FIELD
  MODFLD     - MODIFY FIELD

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN  - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                   GTFDTX/GTXINF
PURPOSE:                GET TEXT INFORMATION
LANGUAGE:               C
MODULE TYPE:            SUBROUTINE
FUNCTION TYPE:          VOID ()
SOURCE FILE:            GTFDTX
SOURCE FILE TYPE:       .C
HOST:
SUBSYSTEM:              UI
SUBDIRECTORY:           FDFE
DOCUMENTATION GROUP:    FDFE

DESCRIPTION:
------------
  SYNOPSIS
    STATIC VOID GTXINF(COMINFO,PROW,PCOL,PLNGTH)
        STRUCT COMINFO *COMINFO;
        INT            *PROW, *PCOL, *PLNGTH;

     INPUTS/OUTPUTS:


     INPUTS:
       COMINFO - POINTER TO STRUCTURE CONTAINING USER INPUT
     OUTPUTS:
       PROW    - PROMPT (OR TEXT) ROW
       PCOL    - PROMPT (OR TEXT) COL
       PLNGTH  - PROMPT (OR TEXT) LENGTH


  DESCRIPTION
       THIS MODULE GETS TEXT FIELD INFORMATION AND PASSES IT
                     BACK TO CALLER

ARGUMENTS:
----------
  COMINFO =       STRUCT COMINFO *
  PROW =       INT *
  PCOL =       INT *
  PLNGTH =       INT *


INCLUDE FILES:
--------------
  STDTYP     - STANDARD TYPE DEFINITIONS
  FPCODE     - FORM PROCESSOR RETURN CODES
  FPD        - FORM PROCESSOR DATA
  FDFEFM     - FDFE FORM DEFINITIONS
  FDFE       - FDFE DATA STRUCTURES
```

```
ROUTINES CALLED:
----------------
  GETLEN      - GET LENGTH
  MATOI

CALLED DIRECTLY BY:
-------------------
  GTFDTX      - GET FIELD TEXT

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                  GTNMFD
PURPOSE:               GET NAMED FIELD
LANGUAGE:              C
MODULE TYPE:           FUNCTION
FUNCTION TYPE:         FIELD * ()
SOURCE FILE:           GTNMFD
SOURCE FILE TYPE:      .C
HOST:
SUBSYSTEM:             UI
SUBDIRECTORY:          FDFE
DOCUMENTATION GROUP:   FDFE

DESCRIPTION:
------------

  SYNOPSIS
     FIELD *GTNMFD(FLDPNT,FLDNAM)
         FIELD *FLDPNT;
         ENAME FLDNAM;


     INPUTS/OUTPUTS:


     INPUTS:
       FLDPNT - POINTER TO FIRST FIELD IN LIST
       FLDNAM - NON NULL TERMINATED STRING WITH FIELD NAME
                    WANTED

     OUTPUTS:
       RETURNS A POINTER TO FIELD WITH NAME GIVEN IF FOUND
       RETURNS NULL IF NO FIELD FOUND WITH NAME GIVEN

  DESCRIPTION
       THIS MODULE RETURNS A POINTER TO FIELD STRUCTURE WITH
                    GIVEN NAME
       OR A NULL IF COULD NOT FIND SUCH A FIELD.

ARGUMENTS:
----------
  FLDPNT =        FIELD *
  FLDNAM =        ENAME


INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  FPD         - FORM PROCESSOR DATA
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES
```

ROUTINES CALLED:

ESCPY
STRLEN
STRCMP

CALLED DIRECTLY BY:

CPYFRM	- COPY FORM
DRPFRM	- DROP FORM
EDTMOD	- EDIT MODE
GNXTFD	- GET NEXT FIELD
INSFRM	- INSERT FORM

USED IN MAIN PROGRAM(S):

FDFE/MAIN	- MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                   GWHINP
PURPOSE:                GET WHOLE INPUT
LANGUAGE:               C
MODULE TYPE:            FUNCTION
FUNCTION TYPE:          CHAR * ()
SOURCE FILE:            GWHINP
SOURCE FILE TYPE:       .C
HOST:
SUBSYSTEM:              UI
SUBDIRECTORY:           FDFE
DOCUMENTATION GROUP:    FDFE

DESCRIPTION:
------------

  SYNOPSIS
     CHAR *GWHINP(FRMPNT,PFKEY)
         FIELD        *FRMPNT;
         INT          *PFKEY;


     INPUTS/OUTPUTS:

     INPUTS:
       FRMPNT - POINTER TO FORM BEING WORKED ON

     OUTPUTS:
       PFKEY  - PFKEY PASSED BACK TO CALLER FROM OISCR
       RETURNS NULL IF NORMAL TERMINATION
       RETURNS ERROR CODE IF ABNORMAL TERMINATION


  DESCRIPTION
     THIS MODULE GETS ALL INPUT FOR ALL SCREENS CALLING VALINP
     AND FLWHST FOR ALL SCREENS.

ARGUMENTS:
----------
  PFKEY =       INT *
  FRMPNT =       FIELD *


INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  FPCODE      - FORM PROCESSOR RETURN CODES
  FPPARM      - FORM PROCESSOR PARAMETERS
  FPD         - FORM PROCESSOR DATA
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES
```

```
ROUTINES CALLED:
----------------
  ADDFRM
  MEMCMP
  MEMCPY
  RMVPAG
  VALINP      - VALIDATE INPUT
  PUTCUR
  OISCR
  SPRINTF
  GDATA
  PUTATT
  PDATA

CALLED DIRECTLY BY:
-------------------
  EDTWHL      - EDIT WHOLE

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	INSFLD
PURPOSE:	INSERT FIELD
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	CHAR * ()
SOURCE FILE:	INSFLD
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
   CHAR
*INSFLD(FLDPNT,NXTFLD,PRVFLD,PARPNT,COMINFO,ITMHLP,ITMVAL,ITMCHK
S,LEVE
         FIELD          **FLDPNT;
         FIELD          **NXTFLD;
         FIELD          **PRVFLD;
         FIELD          *PARPNT;
         STRUCT COMINFO *COMINFO;
         CHAR           *ITMHLP;
         CHAR           *ITMVAL;
         STRUCT ITMCHKS *ITMCHKS;
         INT            LEVEL;
```

INPUTS/OUTPUTS:

INPUTS:

FLDPNT - ADDRESS OF POINTER TO FIELD BEING INSERTED
PRVFLD - ADDRESS WHERE PREVIOUS FIELD POINTER WILL BE INSERTED
NXTFLD - ADDRESS WHERE NEXT FIELD POINTER WILL BE INSERTED
PARPNT - POINTER TO PARENT OF FIELD
COMINFO - POINTER TO STRUCTURE CONTAINING INPUT FOR GENERAL FIELD
INFORMATION OBTAINED FROM USER
ITMHLP - POINTER TO CHAR STRING CONTAINING HELP LINE
ITMVAL - POINTER TO CHAR STRING CONTAINING DEFAULT VALUE FOR ITEM
ITMCHKS - POINTER TO STRUCTURE CONTAINING USER INPUT FOR ITM CHECKS
LEVEL - LEVEL OF OF RECURSION

OUTPUTS:

RETURNS NULL IF NORMAL TERMINATION
RETURNS ERROR CODE IF ABNORMAL TERMINATION

```
  DESCRIPTION
       THIS MODULE INSERTS FIELD INTO DATA STRUCTURE - CALLS
                      MAKFLD TO
       MAKE THE ACTUAL INSERTION THEN INSERTING PARTICULAR
                      INFORMATION
       FOR FIELD(WINDOW,ITEM,FORM,OR ARRAY)

ARGUMENTS:
----------
  FLDPNT =       FIELD **
  NXTFLD =       FIELD **
  PRVFLD =       FIELD **
  PARPNT =       FIELD *
  COMINFO =       STRUCT COMINFO *
  ITMHLP =       CHAR *
  ITMVAL =       CHAR *
  ITMCHKS =       STRUCT ITMCHKS *
  LEVEL =       INT

INCLUDE FILES:
--------------
  STDTYP     - STANDARD TYPE DEFINITIONS
  FPPARM     - FORM PROCESSOR PARAMETERS
  FPCODE     - FORM PROCESSOR RETURN CODES
  FPD        - FORM PROCESSOR DATA
  FDFEFM     - FDFE FORM DEFINITIONS
  FDFE       - FDFE DATA STRUCTURES

ROUTINES CALLED:
----------------
  MATOI
  INSFLD     - INSERT FIELD
  PMSGLS
  ESCPY
  GATDEF
  MAKFLD
  MAX
  GTFDTX     - GET FIELD TEXT
  GITMD      - GET ITEM DATA AND INSERT IN STRUCTURE

CALLED DIRECTLY BY:
-------------------
  EDTFLD     - EDIT FIELD
  INSFLD     - INSERT FIELD
  INSWHL     - INSERT WHOLE
  MODFLD     - MODIFY FIELD
  TRNSCR     - TRANSLATE SCREEN TO STRUCTURE

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN  - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	INSFRM
PURPOSE:	INSERT FORM
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	CHAR * ()
SOURCE FILE:	INSFRM
SOURCE FIIE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
   CHAR *INSFRM(FRMNAM)
       ENAME FRMNAM;
```

INPUTS/OUTPUTS:

INPUTS:

FRMNAM - NON NULL TERMINATED STRING CONTAINING NAME OF FRM TO BE INSERTED.

OUTPUTS:

RETURNS A NULL IF SUCCESSFUL
RETURNS AN ERROR CODE IF FORM ALREADY EXIST OR ABNORMALLY TERMINATED.

DESCRIPTION

THIS MODULE INSERTS TOP LEVEL FORM FILLING IN DEFAULT VALUES

ARGUMENTS:

FRMNAM = ENAME

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS
FPCODE	- FORM PROCESSOR RETURN CODES
FPPARM	- FORM PROCESSOR PARAMETERS
FPD	- FORM PROCESSOR DATA
FDFEFM	- FDFE FORM DEFINITIONS
FDFE	- FDFE DATA STRUCTURES

```
ROUTINES CALLED:
----------------
  GTNMFD     - GET NAMED FIELD
  ESCPY
  GATDEF
  MAKFLD

CALLED DIRECTLY BY:
-------------------
  EDTMOD     - EDIT MODE

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN  - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	INSWHL
PURPOSE:	INSERT WHOLE
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	CHAR * ()
SOURCE FILE:	INSWHL
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
   CHAR *INSWHL(FRMPNT)
       FIELD        *FRMPNT;
```

INPUTS/OUTPUTS:

INPUTS:
FRMPNT - POINTER TO FORM WORKING ON

OUTPUTS:
RETURNS NULL IF NORMAL TERMINATION
RETURNS ERROR CODE IF ABNORMALLY TERMINATED

DESCRIPTION
THIS MODUL INSERTS ALL FIELDS USER ENTERED ON WHOLE EDIT.
IT USES THE GLOBAL DATA AREA.

ARGUMENTS:

FRMPNT = FIELD *

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS
FPCODE	- FORM PROCESSOR RETURN CODES
FPD	- FORM PROCESSOR DATA
FDFEFM	- FDFE FORM DEFINITIONS
FDFE	- FDFE DATA STRUCTURES

ROUTINES CALLED:

MEMCMP

```
  SPRINTF
  PMSGLS
  INSFLD     - INSERT FIELD

CALLED DIRECTLY BY:
-------------------
  EDTWHL     - EDIT WHOLE

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN  - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	LAYOUT
PURPOSE:	LAYOUT MODE
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	CHAR * ()
SOURCE FILE:	LAYOUT
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
CHAR *LAYOUT(FRMPNT,RDONLY)
    FIELD *FRMPNT;
    BOOL   RDONLY;
```

INPUTS/OUTPUTS:

INPUTS:
FRMPNT - POINTER TO FORM BEING WORKED ON
RDONLY - FALG INDICATING WHETER IN READ ONLY MODE OR NOT

OUTPUTS:
RETURNS NULL IF NORMAL TERMINATION
RETURNS ERROR CODE IF ABNORMAL TERMINATION

DESCRIPTION
THIS MODULE IS THE MAIN SWITCHER FOR LAYOUT MODE
BETWEEN ACTUAL
LAYOUT

ARGUMENTS:

FRMPNT =	FIELD *
RDONLY =	BOOL

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS
FPPARM	- FORM PROCESSOR PARAMETERS
FPCODE	- FORM PROCESSOR RETURN CODES
FPD	- FORM PROCESSOR DATA
FDFEFM	- FDFE FORM DEFINITIONS
FDFE	- FDFE DATA STRUCTURES

ROUTINES CALLED:

SCRMAN - SCREEN MANAGER
MEMCMP
EDTFLD - EDIT FIELD

CALLED DIRECTLY BY:

EDTMOD - EDIT MODE

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	LISTFM
PURPOSE:	LIST FORMS
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	CHAR * ()
SOURCE FILE:	LISTFM
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
CHAR *LISTFM()
```

INPUTS/OUTPUTS:

INPUTS:
NONE

OUTPUTS:
RETURNS NULL IF NORMAL TERMINATION
RETURNS ERROR CODE IF ABNORMAL TERMINATION

DESCRIPTION
THIS MODULE LIST ALL FORMS IN CURRENT FLS FILE ON SCREEN

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS
FPPARM	- FORM PROCESSOR PARAMETERS
FPCODE	- FORM PROCESSOR RETURN CODES
FPD	- FORM PROCESSOR DATA
FDFEFM	- FDFE FORM DEFINITIONS
FDFE	- FDFE DATA STRUCTURES

ROUTINES CALLED:

MEMSET
MEMCPY
ADDFRM
MEMCMP
RMVPAG
PMSGLS

```
  OISCR
  PDATA
  STRLEN

CALLED DIRECTLY BY:
-------------------
  EDTMOD      - EDIT MODE

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	LISTIT
PURPOSE:	LIST IT
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	CHAR * ()
SOURCE FILE:	LISTIT
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

```
  SYNOPSIS
    CHAR *LISTIT(TYPE)
       BOOL TYPE;


     INPUTS/OUTPUTS:


     INPUTS:
          CHAR *TYPE    POINTER TO THE CHARACTER STRING "FDL"
                     OR "FD"


     OUTPUTS:
          RETURNS SYSERR IF THE SYSTEM FUNCTION FAILS
                     OTHERWISE RETURNS A
          NULL POINTER.

  DESCRIPTION
       USES THE SYSTEM FUNCTION TO DO A DIRECTORY COMMAND FOR
                     *.FDL OR *.FD
       FILES AND REDIRECTS THE OUTPUT INTO A TEMPORARY FILE.
                     THEN CALLS PRCFIL
       TO READ THE FILE AND FILL IN THE FILENAMES ON THE
                     SCREEN.
```

ARGUMENTS:

```
  TYPE =       BOOL
```

INCLUDE FILES:

```
  STDIO      - **** PURPOSE NOT FOUND BY STRIPPER ****
  STDTYP     - STANDARD TYPE DEFINITIONS
  FPPARM     - FORM PROCESSOR PARAMETERS
  FPCODE     - FORM PROCESSOR RETURN CODES
```

FPD	- FORM PROCESSOR DATA
FDFEFM	- FDFE FORM DEFINITIONS
FDFE	- FDFE DATA STRUCTURES

ROUTINES CALLED:

MKTEMP	
STRCPY	
STRCAT	
SPRINTF	
SYSMSG	
PRCFIL	- PROCESS TEMPORARY FILE
PDATA	
ADDFRM	
MEMCMP	
FEOF	
FCLOSE	
UNLINK	
RMVPAG	
PMSGLS	
OISCR	
FOPEN	
SYSTEM	

CALLED DIRECTLY BY:

FDFE	- FORMS DRIVEN FORM EDITOR

USED IN MAIN PROGRAM(S):

FDFE/MAIN	- MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                   MAKINT
PURPOSE:                MAKE EXPRESSION INTO AN INTEGER
LANGUAGE:               C
MODULE TYPE:            FUNCTION
FUNCTION TYPE:          ENODE * ()
SOURCE FILE:            FLANSP
SOURCE FILE TYPE:       .C
HOST:
SUBSYSTEM:              UI
SUBDIRECTORY:           FE
DOCUMENTATION GROUP:    FDFE/FLAN

DESCRIPTION:
------------
  SYNOPSIS
     ENODE *MAKINT(EP)
        ENODE *EP;

  DESCRIPTION
     CONVERT THE SPECIFIED EXPRESSION TO INTEGER AND RETURN
                     POINTER TO NEW
     EXPRESSION.

ARGUMENTS:
----------
  EP =       ENODE *


INCLUDE FILES:
--------------
  STDTYP     - STANDARD TYPE DEFINITIONS
  STDIO      - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPD        - FORM PROCESSOR DATA
  RW         - REPORT WRITER DEFINITIONS
  FPCODE     - FORM PROCESSOR RETURN CODES


ROUTINES CALLED:
----------------
  MYALLOC    - MY MALLOC
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                   MAKSTR
PURPOSE:                MAKE EXPRESSION INTO A STRING
LANGUAGE:               C
MODULE TYPE:            FUNCTION
FUNCTION TYPE:          ENODE * ()
SOURCE FILE:            FLANSP
SOURCE FILE TYPE:       .C
HOST:
SUBSYSTEM:              UI
SUBDIRECTORY:           FE
DOCUMENTATION GROUP:    FDFE/FLAN

DESCRIPTION:
------------
  SYNOPSIS
     ENODE *MAKSTR(EP)
        ENODE *EP;

  DESCRIPTION
     CONVERT THE SPECIFIED EXPRESSION TO STRING AND RETURN
                         POINTER TO NEW
     EXPRESSION.

ARGUMENTS:
----------
  EP =        ENODE *


INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  STDIO       - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPD         - FORM PROCESSOR DATA
  RW          - REPORT WRITER DEFINITIONS
  FPCODE      - FORM PROCESSOR RETURN CODES


ROUTINES CALLED:
----------------
  MYALLOC     - MY MALLOC
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	MKPOS
PURPOSE:	MAKE POSITION NODE
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	POS * ()
SOURCE FILE:	FLANSP
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FE
DOCUMENTATION GROUP:	FDFE/FLAN

DESCRIPTION:

SYNOPSIS

```
POS *MKPOS(HPOS, HMIN, HLOC, HREF, VPOS, VMIN, VLOC, VREF)
   INT HPOS, HMIN, HLOC;
   CHAR *HREF;
   INT VPOS, VMIN, VLOC;
   CHAR *VREF;
```

DESCRIPTION

CREATES THE SPECIFIED POSITION NODE AND ADDS IT TO THE LIST. HPOS AND VPOS ARE THE REFERENCE POINTS ON THE CURRENT FIELD, HMIN AND VMIN ARE THE LOCATION RELATIVE TO THE REFERENCE FIELD, HLOC AND VLOC ARE THE REFERENCE POINTS ON THE REFERENCE FIELD, AND HREF AND VREF ARE THE REFERENCE FIELDS.

ARGUMENTS:

HPOS =	INT
HMIN =	INT
HLOC =	INT
HREF =	CHAR *
VPOS =	INT
VMIN =	INT
VLOC =	INT
VREF =	CHAR *

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS
STDIO	- **** PURPOSE NOT FOUND BY STRIPPER ****
FPD	- FORM PROCESSOR DATA
RW	- REPORT WRITER DEFINITIONS
FPCODE	- FORM PROCESSOR RETURN CODES

```
ROUTINES CALLED:
----------------
  MYALLOC    - MY MALLOC
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	MODFLD
PURPOSE:	MODIFY FIELD
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	CHAR * ()
SOURCE FILE:	MODFLD
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
CHAR *MODFLD(PARPNT,FLDPNT,COMINFO,ITMHLP,ITMVAL,ITMCHKS)
    FIELD          *PARPNT;
    FIELD          **FLDPNT;
    STRUCT COMINFO *COMINFO;
    CHAR           *ITMHLP;
    CHAR           *ITMVAL;
    STRUCT ITMCHKS *ITMCHKS;
```

INPUTS/OUTPUTS:

INPUTS:

PARPNT - POINTER TO PARENT FIELD
FLDPNT - ADDRESS OF POINNTER TO FIELD TO BE MODIFIED
CCMINFO - POINTER TO STRUCTURE CONTAINING USER INPUT FOR GENERAL FIELD INFORMATION
ITMHLP - POINTER TO CHAR STRING CONTAINING HELP LINE INPUT BY USER
ITMVAL - POINTER TO DEFAULT VALUE FOR ITEMS INPUT BY USER
ITMCHKS - POINTER TO STRUCTURE CONTAINING ITEM VALIDATION CHECKS INPUT BY USER

OUTPUTS:

RETURNS NULL IF NORMAL TERMINATION
RETURNS ERROR CODE IF ABNORMAL TERMINATION

DESCRIPTION

THIS MODULE MODIFIES EXISTING FIELD IN ACCORDENCE WITH USER INPUT

ARGUMENTS:

PARPNT = FIELD *

```
  FLDPNT =       FIELD **
  COMINFO =       STRUCT COMINFO *
  ITMHLP =       CHAR *
  ITMVAL =       CHAR *
  ITMCHKS =       STRUCT ITMCHKS *

INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  FPCODE      - FORM PROCESSOR RETURN CODES
  FPD         - FORM PROCESSOR DATA
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES

ROUTINES CALLED:
----------------
  PMSGLS
  DELFLD
  INSFLD      - INSERT FIELD
  FREE
  MATOI
  FIFDST      - FILL IN FIELD STRUCTURE
  GTFDTX      - GET FIELD TEXT
  GITMD       - GET ITEM DATA AND INSERT IN STRUCTURE
  MEMSET

CALLED DIRECTLY BY:
-------------------
  EDTFLD      - EDIT FIELD
  MODWHL      - MODIFY WHOLE
  TRNSCR      - TRANSLATE SCREEN TO STRUCTURE

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                    MODFRM
PURPOSE:                 MODIFY FORM
LANGUAGE:                C
MODULE TYPE:             FUNCTION
FUNCTION TYPE:           CHAR * ()
SOURCE FILE:             MODFRM
SOURCE FILE TYPE:        .C
HOST:
SUBSYSTEM:               UI
SUBDIRECTORY:            FDFE
DOCUMENTATION GROUP:     FDFE

DESCRIPTION:
------------

  SYNOPSIS
     CHAR *MODFRM(FRMPNT,FRMINFO)
        FIELD          *FRMPNT;
        STRUCT FRMINFO *FRMINFO;

     INPUTS/OUTPUTS:


     INPUTS:
       FRMPNT  - POINTER TO FORM'S INTERNAL STRUCTURE
       FRMINFO - ADDRESS OF USER INPUT
     OUTPUTS:
       RETURNS A NULL IF SUCCESS AND POINTER TO ERROR CODE
                    STRING IF ERROR

  DESCRIPTION
        THIS MODULE MODIFIES INTERNAL STRUCTURE FOR FORM
                     POINTED TO BY FRMPNT
        USING USER INPUT POINTED TO BY FRMINFO.

ARGUMENTS:
----------
  FRMPNT  =      FIELD *
  FRMINFO =       STRUCT FRMINFO *


INCLUDE FILES:
--------------
  STDTYP     - STANDARD TYPE DEFINITIONS
  FPCODE     - FORM PROCESSOR RETURN CODES
  FPD        - FORM PROCESSOR DATA
  FDFEFM     - FDFE FORM DEFINITIONS
  FDFE       - FDFE DATA STRUCTURES


ROUTINES CALLED:
----------------
  MATOI
  FIFDST       - FILL IN FIELD STRUCTURE
  MODFRM/FRETXT - FREE TEXT
  SYSMSG
  ESCPY
  GETLEN       - GET LENGTH
  MALLOC

CALLED DIRECTLY BY:
-------------------
  EDTFLD       - EDIT FIELD
  EDTWHL       - EDIT WHOLE
  TRNSCR       - TRANSLATE SCREEN TO STRUCTURE

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN    - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	MODFRM/FRETXT
PURPOSE:	FREE TEXT
LANGUAGE:	C
MODULE TYPE:	SUBROUTINE
FUNCTION TYPE:	VOID ()
SOURCE FILE:	MODFRM
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

```
  SYNOPSIS
     STATIC VOID FRETXT(FLDPNT)
        FIELD *FLDPNT;

     INPUTS/OUTPUTS:


     INPUTS:
       FLDPNT  - POINTER TO FIELD'S INTERNAL STRUCTURE
     OUTPUTS:
       NONE

  DESCRIPTION
       THIS MODULE FREES UP TEXT BUFFFER'S FOR THE FIELD
                     POINTED TO BY FLDPNT.
```

ARGUMENTS:

```
  FLDPNT =       FIELD *
```

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS
FPCODE	- FORM PROCESSOR RETURN CODES
FPD	- FORM PROCESSOR DATA
FDFEFM	- FDFE FORM DEFINITIONS
FDFE	- FDFE DATA STRUCTURES

ROUTINES CALLED:

FREE

CALLED DIRECTLY BY:

MODFRM   - MODIFY FORM

```
USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN  - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

```
    FORMS DRIVEN FORM EDITOR Module Documentation

NAME:                    MODWHL
PURPOSE:                 MODIFY WHOLE
LANGUAGE:                C
MODULE TYPE:             FUNCTION
FUNCTION TYPE:           CHAR * ()
SOURCE FILE:             MODWHL
SOURCE FILE TYPE:        .C
HOST:
SUBSYSTEM:               UI
SUBDIRECTORY:            FDFE
DOCUMENTATION GROUP:     FDFE

DESCRIPTION:
------------

  SYNOPSIS
     CHAR *MODWHL(FRMPNT)
         FIELD    *FRMPNT;


     INPUTS/OUTPUTS:


     INPUTS:
       FRMPNT - POINTER TO FORM BEING WORKED ON

     OUTPUTS:
       RETURNS A NULL IF NORMAL TERMINATION
       RETURNS A ERROR CODE IF ABNORMAL TERMINATION

  DESCRIPTION
     THIS MODULE MODIFIES ALL FIELDS ON A FORM BY CALLING
                         MODFLD FOR EACH
     FIELD ON FORM

ARGUMENTS:
----------
  FRMPNT =       FIELD *


INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  FPCODE      - FORM PROCESSOR RETURN CODES
  FPD         - FORM PROCESSOR DATA
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES


ROUTINES CALLED:
----------------
  MODFLD      - MODIFY FIELD
  MEMCMP
  SPRINTF
  PMSGLS

CALLED DIRECTLY BY:
-------------------
  EDTWHL     - EDIT WHOLE

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN  - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	MYALLOC
PURPOSE:	MY MALLOC
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	CHAR * ()
SOURCE FILE:	FLANSP
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FE
DOCUMENTATION GROUP:	FDFE/FLAN

DESCRIPTION:

SYNOPSIS

```
CHAR *MYALLOC(SIZE)
   UNSIGNED SIZE;
```

DESCRIPTION

ALLOCATE THE SPECIFIED MEMORY IF POSSIBLE, ELSE ISSUE FATAL ERROR

ARGUMENTS:

SIZE = UNSIGNED

INCLUDE FILES:

STDTYP - STANDARD TYPE DEFINITIONS
STDIO - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
RW - REPORT WRITER DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES

ROUTINES CALLED:

FATAL - ISSUE FATAL ERROR MESSAGE
MALLOC

CALLED DIRECTLY BY:

CHKFLD - CHECK FIELD
CHKARY - CHECK ARRAY
CSTASH - CHARACTER STASH
WRTEXP - WRITE EXPRESSION
MKPOS - MAKE POSITION NODE
MAKINT - MAKE EXPRESSION INTO AN INTEGER
MAKSTR - MAKE EXPRESSION INTO A STRING

```
USED IN MAIN PROGRAM(S):
------------------------
  CHKFLD     - CHECK FIELD
  CHKFRM     - CHECK FORM
  CSTASH     - CHARACTER STASH
  MAKINT     - MAKE EXPRESSION INTO AN INTEGER
  MAKSTR     - MAKE EXPRESSION INTO A STRING
  MKPOS      - MAKE POSITION NODE
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                    PRCFIL
PURPOSE:                 PROCESS TEMPORARY FILE
LANGUAGE:                C
MODULE TYPE:             FUNCTION
FUNCTION TYPE:           CHAR * ()
SOURCE FILE:             PRCFIL
SOURCE FILE TYPE:        .C
HOST:
SUBSYSTEM:               UI
SUBDIRECTORY:            FDFE
DOCUMENTATION GROUP:     FDFE

DESCRIPTION:
------------

  SYNOPSIS
    CHAR *PRCFIL(FILE_PTR)
       FILE *FILE_PTR;


     INPUTS/OUTPUTS:


     INPUTS:
          FILE *FILE_PTR FILE POINTER TO THE TEMPORARY FILE
                     CONTAINING THE
          DIRECTORY LIST.


     OUTPUTS:


  DESCRIPTION
    PROCESSES THE TEMPORARY FILE FINDING ALL THE FILE NAMES
                     AND PLACES EACH
    ONE INTO THE SCREEN.

ARGUMENTS:
----------
  FILE_PTR =       FILE *


INCLUDE FILES:
--------------
  STDIO      - **** PURPOSE NOT FOUND BY STRIPPER ****
  STDTYP     - STANDARD TYPE DEFINITIONS
  FPCODE     - FORM PROCESSOR RETURN CODES
  FPD        - FORM PROCESSOR DATA
  FDFEFM     - FDFE FORM DEFINITIONS
  FDFE       - FDFE DATA STRUCTURES
```

```
ROUTINES CALLED:
----------------
  STRCHR
  FGETS
  STRRCHR
  SPRINTF
  MEMSET
  FERROR

CALLED DIRECTLY BY:
-------------------
  LISTIT     - LIST IT

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN  - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                   PREC
PURPOSE:                PRECEDENCE
LANGUAGE:               C
MODULE TYPE:            FUNCTION
FUNCTION TYPE:          INT ()
SOURCE FILE:            WRTFDL
SOURCE FILE TYPE:       .C
HOST:
SUBSYSTEM:              UI
SUBDIRECTORY:           FDFE
DOCUMENTATION GROUP:    FDFE

DESCRIPTION:
------------
  INT PREC(EP)
     ENODE *EP;

  RETURNS THE PRECEDENCE OF AN EXPRESSION. THIS ROUTINE IS
                          USED IN
  TREEXP TO DETERMINE IF AN EXPRESSION REQUIRES PARENTHESIS.

ARGUMENTS:
----------
  EP =        ENODE *


INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  STDIO       - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPD         - FORM PROCESSOR DATA


ROUTINES CALLED:
----------------
  PREC        - PRECEDENCE


CALLED DIRECTLY BY:
-------------------
  GETFLS/TREEXP - TREE EXPRESSION
  PREC        - PRECEDENCE


USED IN MAIN PROGRAM(S):
------------------- ----
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	PRSCMD
PURPOSE:	PARSE COMMAND
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	INT ()
SOURCE FILE:	PRSCMD
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
INT PRSCMD(CMD,PARSIZ,CMDNAM,PARAMTR,NUMPARM)
    CHAR          CMD[];
    INT           PARSIZ[MAXPARM];
    CHAR          *CMDNAM[];
    CHAR          *PARAMTR[MAXPARM];
    INT           *NUMPARM;
```

INPUTS/OUTPUTS:

INPUTS:
CMD - COMMAND LINE
PARSIZ - ARRAY OF PARAMETER SIZES
CMDNAM - ARRAY OF CHAR POINTERS TO LEGITIMATE COMMANDS
OUTPUTS:
PARAMTR - PARAMETERS ARE RETURN TO THIS ARRAY
NUMPARM - NUMBER OF PARAMETERS FOUND
RETURNS INT VALUE CORRESPONDING TO OPTION CHOSEN

DESCRIPTION

THIS MODULE PARSES THE COMMAND LINE AND RETURNS INT NUM CORRESPONDING TO OPTION AND PUTS IN 'NUMPARM' THE NUMBER OF PARAMETERS FOUND AND IN PARAMTR THE ACTUAL PARAMETERS FOUND.

ARGUMENTS:

CMD =	CHAR []
PARSIZ =	INT [MAXPARM]
CMDNAM =	CHAR * []
PARAMTR =	CHAR * [MAXPARM]
NUMPARM =	INT *

```
INCLUDE FILES:
----------    -
  STDTYP      - STANDARD TYPE DEFINITIONS
  FPD         - FORM PROCESSOR DATA
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES

ROUTINES CALLED:
----------------
  STRNCPY
  MEMCMP
  MEMSET
  STRNCMP
  STRLEN

CALLED DIRECTLY BY:
-------------------
  EDTMOD      - EDIT MODE
  FDFE        - FORMS DRIVEN FORM EDITOR

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                    PUTERR
PURPOSE:                 PUT ERROR
LANGUAGE:                C
MODULE TYPE:             FUNCTION
FUNCTION TYPE:           BOOL ()
SOURCE FILE:             VALINP
SOURCE FILE TYPE:        .C
HOST:
SUBSYSTEM:               UI
SUBDIRECTORY:            FDFE
DOCUMENTATION GROUP:     FDFE

DESCRIPTION:
------------
  BOOL PUTERR(PATH, EXT, STR)
     CHAR PATH[], EXT[], STR[];

  SET THE ERROR ATTRIBUTE FOR THE INVALID FIELD AND PUT THE
                         CURSOR THERE.
  PUTERR(PATH, EXTENSTION, EXPLANATION)

ARGUMENTS:
----------
  PATH =        CHAR []
  EXT =        CHAR []
  STR =        CHAR []


INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  CTYPE       - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPD         - FORM PROCESSOR DATA
  FPCODE      - FORM PROCESSOR RETURN CODES
  FPPARM      - FORM PROCESSOR PARAMETERS
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES


ROUTINES CALLED:
----------------
  STRCPY
  STRCAT
  PUTATT
  MEMCMP
  PMSGLC
  PMSGLS
  PUTCUR


CALLED DIRECTLY BY:
-------------------
  VALINP/CCKFRM - CHECK FORM
  VALINP/CCKFLD - CHECK FIELD
  VALINP/CCKHLP - CHECK HELP
  VALINP/CCKITM - CHECK ITEM
  VALINP/CCKNAM - CHECK NAME

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	SAVFLS
PURPOSE:	SAVE FDL SOURCE
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	CHAR * ()
SOURCE FILE:	SAVFLS
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
CHAR *SAVFLS(FRMNAM, SAVFD, DP)
   CHAR FRMNAM[];
   BOOL SAVFD;
   FIELD *DP;
```

INPUTS:

```
CHAR FRMNAM[]; ** THE NAME THE FORM IS THE BE SAVED
              UNDER
BOOL SAVFD; ** IF TRUE THE .FD FILES ARE ALSO WRITTEN **
FIELD *DP; ** POINTER TO LIST OF FORMS TO BE WRITTEN
              OUT
```

DESCRIPTION

A LIST OF FORMS POINTED TO BY DP IS TO BE WRITTEN OUT AS .FDL SOURCE.
THE FORMS ARE FIRST WRITTEN TO A TEMPORARY FILE WHICH IS FLANED TO
CHECK FOR ERRORS IN VALUE EXPRESSIONS AND OVERLAPPING FIELDS. IF
THERE ARE NO ERRORS THE FILE IS RENAMED. IF THE SAVFD FLAG IS TRUE
THE .FD FILES ARE ALSO WRITTEN.

ARGUMENTS:

FRMNAM =	CHAR []
SAVFD =	BOOL
DP =	FIELD *

INCLUDE FILES:

STDTYP - STANDARD TYPE DEFINITIONS

```
  STDIO       - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPD         - FORM PROCESSOR DATA
  FPCODE      - FORM PROCESSOR RETURN CODES

ROUTINES CALLED:
----------------
  ESCPY
  SPRINTF
  STRCPY
  STRRCHR
  STRCAT
  FOPEN
  SYSMSG
  FLANCI      - FLAN CALLABLE INTERFACE
  WRTFDL      - WRITE FDL FILE
  REWIND
  FCLOSE
  RENAME
  WRTFRM
  DELFLD

CALLED DIRECTLY BY:
-------------------
  EDTMOD      - EDIT MODE

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	SCRMAN
PURPOSE:	SCREEN MANAGER
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	CHAR * ()
SOURCE FILE:	SCRMAN
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
CHAR *SCRMAN(FRMPNT,RDONLY,ROW,COL)
    FIELD *FRMPNT;
    BOOL   RDONLY;
    INT    *ROW;
    INT    *COL;
```

INPUTS/OUTPUTS:

INPUTS:

FRMPNT - POINTER TO FORM WORKING ON
RDOLNY - FLAG INDICATING WHETHER IN READ ONLY MODE OR NOT

OUTPUTS:

ROW - ROW RECEIVED FROM GETCUR ROUTINE
COL - COL RECEIVED FROM GETCUR ROUTINE

DESCRIPTION

THIS MODUE MANAGES THE SCREEN LAYOUT MODE: CALLING ROUTINES TO
TRANSLATE INTERNAL STRUCTURE TO SCREEN LAYOUT FORMAT AND VICE VERSA
HANLING ALL INPUT THROUGH AN OISCR CHECKING THE VALUE OF PFKEY RETURNED
BY OISCR AND ERORR CODES RETURNED BY TRANLATE ROUTINES TO DETERMINE
WHAT ACTION SHOULD BE TAKEN.

ARGUMENTS:

FRMPNT =	FIELD *
RDONLY =	BOOL
ROW =	INT *
COL =	INT *

```
INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  FPPARM      - FORM PROCESSOR PARAMETERS
  FPCODE      - FORM PROCESSOR RETURN CODES
  FPD         - FORM PROCESSOR DATA
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES

ROUTINES CALLED:
----------------
  SCRMAN/CHGPOS - CHANG POSITION
  SCRMAN/GETROW - GET ROW
  TRNSCR      - TRANSLATE SCREEN TO STRUCTURE
  ADDFRM
  MEMCMP
  RMVPAG
  GETCUR
  GDATA
  OISCR
  TRNSTR      - TRANSLATE STRUCTURE TO SCREEN
  PMSGLS
  PMSGLC
  PDATA

CALLED DIRECTLY BY:
-------------------
  LAYOUT      - LAYOUT MODE

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	SCRMAN/CHGPOS
PURPOSE:	CHANG POSITION
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	CHAR * ()
SOURCE FILE:	SCRMAN
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
STATIC CHAR *CHGPOS(FRMPNT)
   FIELD        *FRMPNT;
```

INPUTS/OUTPUTS:

INPUTS:
FRMPNT - POINTER TO FORM WORKING ON

OUTPUTS:
STANDARD FORM PROCESSOR RETURN CODE

DESCRIPTION

THIS MODUE ALTERS THE INTERNAL DATA STRUCTURE OF FIELD MARKED SO THAT
ITS NEW ROW = ROW OBTAINED FROM GETCUR AND THE COL = COL OBTAINED
FROM GETCUR + 1. IT SENDS THE USER APPROPRIATE ERROR MESSAGES IF HE/SHE
MAKES AN ERROR (NOT MARKING A FIELD TO B MOVED, FOR EXAMPLE).

ARGUMENTS:

FRMPNT =   FIELD *

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS
FPPARM	- FORM PROCESSOR PARAMETERS
FPCODE	- FORM PROCESSOR RETURN CODES
FPD	- FORM PROCESSOR DATA
FDFEFM	- FDFE FORM DEFINITIONS
FDFE	- FDFE DATA STRUCTURES

```
ROUTINES CALLED:
----------------
  SCRMAN/GETROW - GET ROW
  GTCPFD      - GET USING CURSOR POSITION FIELD
  MAX
  MIN
  ABS
  TRNSTR      - TRANSLATE STRUCTURE TO SCREEN
  PMSGLS
  GETCUR
  MEMCMP

CALLED DIRECTLY BY:
-------------------
  SCRMAN      - SCREEN MANAGER

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	SCRMAN/GETROW
PURPOSE:	GET ROW
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	INT ()
SOURCE FILE:	SCRMAN
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
STATIC INT GETROW(FQ_NAM)
   PATH     FQ_NAM;
```

INPUTS/OUTPUTS:

INPUTS:
FQ-NAM - FULLY QUALIFIED NAME RETURNED FROM GETCUR

OUTPUTS:
RETURNS ROW OR 0 IF NOT ARRAY

DESCRIPTION

THIS MODULE RETURNS ROW BASED ON ARRAY INDEX

ARGUMENTS:

FQ_NAM =   PATH

INCLUDE FILES:

STDTYP	-	STANDARD TYPE DEFINITIONS
FPPARM	-	FORM PROCESSOR PARAMETERS
FPCODE	-	FORM PROCESSOR RETURN CODES
FPD	-	FORM PROCESSOR DATA
FDFEFM	-	FDFE FORM DEFINITIONS
FDFE	-	FDFE DATA STRUCTURES

ROUTINES CALLED:

ESCPY
STRRCHR
MATOI
STRLEN

```
CALLED DIRECTLY BY:
-------------------
  SCRMAN        - SCREEN MANAGER
  SCRMAN/CHGPOS - CHANG POSITION

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                   TRNSCR
PURPOSE:                TRANSLATE SCREEN TO STRUCTURE
LANGUAGE:               C
MODULE TYPE:            FUNCTION
FUNCTION TYPE:          CHAR * ()
SOURCE FILE:            TRNSCR
SOURCE FILE TYPE:       .C
HOST:
SUBSYSTEM:              UI
SUBDIRECTORY:           FDFE
DOCUMENTATION GROUP:    FDFE

DESCRIPTION:
------------

  SYNOPSIS
     CHAR *TRNSCR(FRMPNT)
         FIELD          *FRMPNT;


     INPUTS/OUTPUTS:


     INPUTS:
       FRMPNT - POINTER TO FORM BEING WORKED ON

     OUTPUTS:
       RETURN NULL IF NO ERRORS
       RETURN ERROR CODE IF NO EITHER USER(OVERLAP) ERRORS OR
                     SYSTEM ERRORS

  DESCRIPTION
     THIS MODULE VALIDATES AND TRANSLATES USER INPUT AT LAYOUT
                     MODE TO
     INTERNAL DATA STRUCTURE.

ARGUMENTS:
----------
  FRMPNT =       FIELD *


INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  CTYPE       - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPCODE      - FORM PROCESSOR RETURN CODES
  FPPARM      - FORM PROCESSOR PARAMETERS
  FPD         - FORM PROCESSOR DATA
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES
```

```
ROUTINES CALLED:
----------------
  MEMSET
  TRNSCR/LDPMINF - LOAD PROMPT INFORMATION
  INSFLD       - INSERT FIELD
  MODFLD       - MODIFY FIELD
  TRNSCR/FLCST - FILL LOCATION STRUCTURE
  TRNSCR/PARSCRN - PARSE SCREEN DATA
  MEMCMP
  ISSPACE
  TRNSCR/SPSYMB - SPECIAL SYMBOL CHECK
  TRNSCR/GTFMPMT - GET FORM PROMPT INFORMATION
  TRNSCR/GTPINF - GET PROMPT INFORMATION
  TRNSCR/MTCHPMT - MATCH PROMPT WITH FIELD
  TRNSCR/FRLCST - FREE LOCATION STRUCTURES
  MODFRM       - MODIFY FORM
  DELFLD
  GTCPFD       - GET USING CURSOR POSITION FIELD
  FLSTRC       - FIELD STRUCTURE TRANSLATION
  MITOA
  SPRINTF
  MEMCPY
  STRLEN
  FLFMST       - FIELD TO FORM STRUCTURE TRANSLATION

CALLED DIRECTLY BY:
-------------------
  SCRMAN       - SCREEN MANAGER

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN    - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                    TRNSCR/FLCST
PURPOSE:                 FILL LOCATION STRUCTURE
LANGUAGE:                C
MODULE TYPE:             FUNCTION
FUNCTION TYPE:           CHAR * ()
SOURCE FILE:             TRNSCR
SOURCE FILE TYPE:        .C
HOST:
SUBSYSTEM:               UI
SUBDIRECTORY:            FDFE
DOCUMENTATION GROUP:     FDFE

DESCRIPTION:
------------
  SYNOPSIS
     STATIC CHAR *FLCST(ROW,COL,DPTH,WDTH)
         REGISTER INT ROW,COL,DPTH,WDTH;


     INPUTS/OUTPUTS:


     INPUTS:
       ROW  - ROW WHERE FIELD IS LOCATED
       COL  - COL WHERE FIELD IS LOCATED
       DPTH - DEPTH OF FIELD LOCATED
       WDTH - DEPTH OF FIELD LOCATED

     OUTPUTS:
       RETURN NULL IF NO ALLOCATION ERRORS
       RETURN ALCERR IF ALOCATION ERRROR.

  DESCRIPTION
     THIS MODULE CREATES AND FILLS FIELD LOCATION STRUCTURE.

ARGUMENTS:
----------
  ROW =        INT
  COL =        INT
  DPTH =        INT
  WDTH =        INT


INCLUDE FILES:
--------------
  STDTYP     - STANDARD TYPE DEFINITIONS
  CTYPE      - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPCODE     - FORM PROCESSOR RETURN CODES
  FPPARM     - FORM PROCESSOR PARAMETERS
  FPD        - FORM PROCESSOR DATA
  FDFEFM     - FDFE FORM DEFINITIONS
  FDFE       - FDFE DATA STRUCTURES
```

```
ROUTINES CALLED:
----------------
  MALLOC

CALLED DIRECTLY BY:
-------------------
  TRNSCR/PARSCRN - PARSE SCREEN DATA
  TRNSCR         - TRANSLATE SCREEN TO STRUCTURE

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                    TRNSCR/FRLCST
PURPOSE:                 FREE LOCATION STRUCTURES
LANGUAGE:                C
MODULE TYPE:             SUBROUTINE
FUNCTION TYPE:           VOID ()
SOURCE FILE:             TRNSCR
SOURCE FILE TYPE:        .C
HOST:
SUBSYSTEM:               UI
SUBDIRECTORY:            FDFE
DOCUMENTATION GROUP:     FDFE

DESCRIPTION:
------------
  SYNOPSIS
     STATIC VOID FRLCST()


     INPUTS/OUTPUTS:


     INPUTS:
       NONE

     OUTPUTS:
       NONE

  DESCRIPTION
     THIS MODULE FREES UP ALL DATA LOCATION STRUCTURES
                         ALLOCATED BY TRNSCR
     AND ITS DEPENDENT STATIC SUB MODULES (ALL FLDLOC AND
                         PMTLOC STRUCTURES).


INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  CTYPE       - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPCODE      - FORM PROCESSOR RETURN CODES
  FPPARM      - FORM PROCESSOR PARAMETERS
  FPD         - FORM PROCESSOR DATA
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES


ROUTINES CALLED:
----------------
  FREE


CALLED DIRECTLY BY:
-------------------
  TRNSCR      - TRANSLATE SCREEN TO STRUCTURE
```

```
USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN  - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                   TRNSCR/GTFMPMT
PURPOSE:                GET FORM PROMPT INFORMATION
LANGUAGE:               C
MODULE TYPE:            FUNCTION
FUNCTION TYPE:          CHAR * ()
SOURCE FILE:            TRNSCR
SOURCE FILE TYPE:       .C
HOST:
SUBSYSTEM:              UI
SUBDIRECTORY:           FDFE
DOCUMENTATION GROUP:    FDFE

DESCRIPTION:
------------
  SYNOPSIS
     STATIC CHAR *GTFMPMT(ROW,COL,N)
        REGISTER INT ROW,COL,N;


     INPUTS/OUTPUTS:


     INPUTS:
       ROW - ROW OF PROMPT ASSOCIATED WITH FORM (ON SCREEN
                        ARRAY)
       COL - COL OF PROMPT ASSOCIATED WITH FORM (ON SCREEN
                        ARRAY)
       N   - NUMBER OF THE PROMPT ASSOCIATED WITH FORM

     OUTPUTS:
       NONE

  DESCRIPTION
     THIS MODUE GETS FORM PROMPT INFO FOR PROMPT AND PUTS IT
                        INTO COMMON
     DATA STRUCTURE WHICH INSFRM AND MODFRM USE

ARGUMENTS:
----------
  ROW =        INT
  COL =        INT
  N =        INT


INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  CTYPE       - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPCODE      - FORM PROCESSOR RETURN CODES
  FPPARM      - FORM PROCESSOR PARAMETERS
  FPD         - FORM PROCESSOR DATA
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES
```

```
ROUTINES CALLED:
----------------
  MITOA

CALLED DIRECTLY BY:
-------------------
  TRNSCR      - TRANSLATE SCREEN TO STRUCTURE

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	TRNSCR/GTPINF
PURPOSE:	GET PROMPT INFORMATION
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	CHAR * ()
SOURCE FILE:	TRNSCR
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

```
DESCRIPTION:
------------
  SYNOPSIS
     STATIC CHAR *GTPINF(ROW,COL,DIRFLG,RCOL,FSTFLG,ERRFLG)
        REGISTER INT  ROW,COL,DIRFLG;
        INT           *RCOL;
        BOOL          *FSTFLG,*ERRFLG;


     INPUTS/OUTPUTS:


     INPUTS:
       ROW    - ROW WHERE PROMPT SYMBOL WAS FOUND
       COL    - COL WHERE PROMPT SYMBOL WAS FOUND
       DIRFLG - TYPE OF PROMPT (DIRECTION OF ASSOCIATION)
       FSTFLG - FIRST PROMPT IN COL FLAG



     OUTPUTS:
       RCOL   - LOCATION TO RESUME SEARCH THOUGH SCREEN ARRAY.
       FSTFLG - FIRST PROMPT IN COL FLAG
       ERRFLG - SET TO TRUE IF PROMPT IS OPEN ENDED

  DESCRIPTION
     THIS MODULE DETERMINES LOCATION OF PROMPT IF IT CAN AND
                     CREATE A
     PROMPT LOCATION STRUCTURE WITH LOCATION AND CONTENT OF
                     PROMPT.

ARGUMENTS:
----------
  ROW =        INT
  COL =        INT
  DIRFLG =        INT
  RCOL =        INT *
  FSTFLG =        BOOL *
  ERRFLG =        BOOL *
```

```
INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  CTYPE       - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPCODE      - FORM PROCESSOR RETURN CODES
  FPPARM      - FORM PROCESSOR PARAMETERS
  FPD         - FORM PROCESSOR DATA
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES

ROUTINES CALLED:
----------------
  MAX
  MIN
  MALLOC
  ISSPACE
  TRNSCR/SPSYMB - SPECIAL SYMBOL CHECK

CALLED DIRECTLY BY:
-------------------
  TRNSCR      - TRANSLATE SCREEN TO STRUCTURE

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                     TRNSCR/LDPMINF
PURPOSE:                  LOAD PROMPT INFORMATION
LANGUAGE:                 C
MODULE TYPE:              SUBROUTINE
FUNCTION TYPE:            VOID ()
SOURCE FILE:              TRNSCR
SOURCE FILE TYPE:         .C
HOST:
SUBSYSTEM:                UI
SUBDIRECTORY:             FDFE
DOCUMENTATION GROUP:      FDFE

DESCRIPTION:
------------
  SYNOPSIS
     STATIC VOID LDPMINF(FLCPNT)
        STRUCT FLDLOC *FLCPNT;

     INPUTS/OUTPUTS:


     INPUTS:
       FLCPNT - POINTER TO FIELD LOCATION STRUCTURE WHOSE
                          PROMPT IS
                BEING WORKED ON

     OUTPUTS:

  DESCRIPTION
     THIS MODULE LOADS PROMPT INFO OF LAYOUT FIELD INTO COMMON
                          DATA
     STRUCTURE USED BY AND PASSED TO INSFLD(MODFLD) FIELD ETC.

ARGUMENTS:
----------
  FLCPNT =       STRUCT FLDLOC *


INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  CTYPE       - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPCODE      - FORM PROCESSOR RETURN CODES
  FPPARM      - FORM PROCESSOR PARAMETERS
  FPD         - FORM PROCESSOR DATA
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES

ROUTINES CALLED:
----------------
  MEMCPY
  MITOA
```

```
CALLED DIRECTLY BY:
-------------------
  TRNSCR     - TRANSLATE SCREEN TO STRUCTURE

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN  - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                   TRNSCR/MTCHPMT
PURPOSE:                MATCH PROMPT WITH FIELD
LANGUAGE:               C
MODULE TYPE:            FUNCTION
FUNCTION TYPE:          BOOL ()
SOURCE FILE:            TRNSCR
SOURCE FILE TYPE:       .C
HOST:
SUBSYSTEM:              UI
SUBDIRECTORY:           FDFE
DOCUMENTATION GROUP:    FDFE

DESCRIPTION:
------------
  SYNOPSIS
     STATIC BOOL MTCHPMT()


     INPUTS/OUTPUTS:


     INPUTS:
       NONE

     OUTPUTS:
       RETURNS MATCHED/NOT_MATCHED FLAG

  DESCRIPTION
     THIS MODULE MATCHES PROMPTS WITH FIELDS.  IF PROMPT IS
                        UNMATCHED OR
     AMBIGUOUSLY MATCHED RETURN FAILURE ELSE PUT POINTER TO
                        PROMPT LOCATION
     FIELD INTO FIELD LOCATION FIELD PROMT POINTER.


INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  CTYPE       - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPCODE      - FORM PROCESSOR RETURN CODES
  FPPARM      - FORM PROCESSOR PARAMETERS
  FPD         - FORM PROCESSOR DATA
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES

ROUTINES CALLED:
----------------
  MAX
```

```
CALLED DIRECTLY BY:
-------------------
  TRNSCR      - TRANSLATE SCREEN TO STRUCTURE

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                    TRNSCR/PARSCRN
PURPOSE:                 PARSE SCREEN DATA
LANGUAGE:                C
MODULE TYPE:             FUNCTION
FUNCTION TYPE:           CHAR * ()
SOURCE FILE:             TRNSCR
SOURCE FILE TYPE:        .C
HOST:
SUBSYSTEM:               UI
SUBDIRECTORY:            FDFE
DOCUMENTATION GROUP:     FDFE

DESCRIPTION:
------------
  SYNOPSIS
     STATIC CHAR *PARSCRN(ROW,COL,MAXCOL)
        REGISTER INT ROW,COL,MAXCOL;


     INPUTS/OUTPUTS:


     INPUTS:
       ROW    - ROW IN WHICH BEGINNING FIELD SYMBOL OCCURED
       COL    - COL IN WHICH BEGINNING FIELD SYMBOL OCCURED
       MAXCOL - MAX COL IN WHICH ENDING FIELD SYMBOL CA BE
                     FOUND WITHOUT
                AN OVERLAP ERROR OCCURING.

     OUTPUTS:
       RETURN NULL IF NO ERRORS
       RETURN ERROR CODE IF  EITHER OVERLAP ERRORS OR SYSTEM
                     ERRORS

  DESCRIPTION
     THIS MODULE PARSES SCREEN TO DETERMINE THE LOCATION OF
                     FIELDS
     WHILE CHECKING FOR OVERLAPPING OF OTHER FIELDS OR PROMPTS.

ARGUMENTS:
----------
  ROW =        INT
  COL =        INT
  MAXCOL =        INT


INCLUDE FILES:
--------------
  STDTYP     - STANDARD TYPE DEFINITIONS
  CTYPE      - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPCODE     - FORM PROCESSOR RETURN CODES
  FPPARM     - FORM PROCESSOR PARAMETERS
  FPD          - FORM PROCESSOR DATA
  FDFEFM       - FDFE FORM DEFINITIONS
  FDFE         - FDFE DATA STRUCTURES

ROUTINES CALLED:
----------------
  TRNSCR/SPSYMB - SPECIAL SYMBOL CHECK
  ISSPACE
  TRNSCR/PARSCRN - PARSE SCREEN DATA
  TRNSCR/FLCST - FILL LOCATION STRUCTURE
  MIN

CALLED DIRECTLY BY:
-------------------
  TRNSCR/PARSCRN - PARSE SCREEN DATA
  TRNSCR       - TRANSLATE SCREEN TO STRUCTURE

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	TRNSCR/SPSYMB
PURPOSE:	SPECIAL SYMBOL CHECK
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	BOOL ()
SOURCE FILE:	TRNSCR
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
STATIC BOOL SPSYMB(SCRCHR)
    CHAR SCRCHR;
```

INPUTS/OUTPUTS:

INPUTS:
SCRCHR - CHARACTER TO BE CHECKED

OUTPUTS:
RETURNS TRUE/FALSE FLAG

DESCRIPTION
THIS MODULE RETURNS TURE IF CHAR A SPECIAL SYMBOL ELSE RETURNS FALSE

ARGUMENTS:

SCRCHR =	CHAR

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS
CTYPE	- **** PURPOSE NOT FOUND BY STRIPPER ****
FPCODE	- FORM PROCESSOR RETURN CODES
FPPARM	- FORM PROCESSOR PARAMETERS
FPD	- FORM PROCESSOR DATA
FDFEFM	- FDFE FORM DEFINITIONS
FDFE	- FDFE DATA STRUCTURES

CALLED DIRECTLY BY:

TRNSCR/GTPINF	- GET PROMPT INFORMATION
TRNSCR/PARSCRN	- PARSE SCREEN DATA
TRNSCR	- TRANSLATE SCREEN TO STRUCTURE

```
USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN  - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	TRNSTR
PURPOSE:	TRANSLATE STRUCTURE TO SCREEN
LANGUAGE:	C
MODULE TYPE:	SUBROUTINE
FUNCTION TYPE:	VOID ()
SOURCE FILE:	TRNSTR
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
VOID TRNSTR(FRMPNT,FLDPNT,RDONLY)
    FIELD *FRMPNT;
    FIELD *FLDPNT;
    BOOL  RDONLY;
```

INPUTS/OUTPUTS:

INPUTS:

```
FRMPNT - POINTER TO FORM BEING WORKED ON
FLDPNT - POINTER TO FIELD BEING WORKED ON IF NULL DO
              ENTIRE FORM
RDONLY - FLAG INDICATING WHETHER IN READ ONLY MODE OR
              NOT
```

OUTPUTS:

NONE

DESCRIPTION

THIS MODULE TRANSLATES INTERNAL DATA STRUCTURE INTO SCREEN LAYOUT FORMAT.

ARGUMENTS:

FRMPNT =	FIELD *
FLDPNT =	FIELD *
RDONLY =	BOOL

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS
FPCODE	- FORM PROCESSOR RETURN CODES

```
  FPD         - FORM PROCESSOR DATA
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES

ROUTINES CALLED:
----------------
  MEMSET
  TRNSTR/FLPRMPT - FILL PROMPT
  TRNSTR/FLFLD - FILL FIELD

CALLED DIRECTLY BY:
-------------------
  SCRMAN      - SCREEN MANAGER
  SCRMAN/CHGPOS - CHANG POSITION

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	TRNSTR/FLFLD
PURPOSE:	FILL FIELD
LANGUAGE:	C
MODULE TYPE:	SUBROUTINE
FUNCTION TYPE:	VOID ()
SOURCE FILE:	TRNSTR
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
    STATIC VOID FLFLD(FLDPNT,RDONLY)
        FIELD *FLDPNT;
        BOOL  RDONLY;
```

INPUTS/OUTPUTS:

INPUTS:

FLDPNT - POINTER TO FIELD BEING WORKED ON
RDONLY - FLAG INDICATING WHETHER IN READ ONLY MODE OR NOT

OUTPUTS:

NONE

DESCRIPTION

THIS MODULE TRANSLATES INTERNAL DATA STRUCTURE OF ONE FIELD INTO SCREEN LAYOUT FORMAT.

ARGUMENTS:

FLDPNT =	FIELD *
RDONLY =	BOOL

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS
FPCODE	- FORM PROCESSOR RETURN CODES
FPD	- FORM PROCESSOR DATA
FDFEFM	- FDFE FORM DEFINITIONS
FDFE	- FDFE DATA STRUCTURES

```
ROUTINES CALLED:
----------------
  TRNSTR/FLPRMPT - FILL PROMPT
  PMSGLS
  SPRINTF
  MIN
  MAX
  TRNSTR/GARINF - GET ARRAY INFORMATION

CALLED DIRECTLY BY:
-------------------
  TRNSTR     - TRANSLATE STRUCTURE TO SCREEN

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN  - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	TRNSTR/FLPRMPT
PURPOSE:	FILL PROMPT
LANGUAGE:	C
MODULE TYPE:	SUBROUTINE
FUNCTION TYPE:	VOID ()
SOURCE FILE:	TRNSTR
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
STATIC VOID FLPRMPT(FLFPNT,TXTPNT,PRMSYM)
    FIELD       *FLDPNT;
    TEXT        *TXTPNT;
    CHAR        PRMSYM;
```

INPUTS/OUTPUTS:

INPUTS:

FLDPNT - POINTER TO FIELD ON WHICH IS FOUND TEXT (PROMPT)

TXTPNT - POINTER TO TEXT (PROMPT) BEING WORKED ON

PRMSYM - PROMT SYMBOL (LAYOUT PROMPT SYMBOLS)

OUTPUTS:

NONE

DESCRIPTION

THIS MODULE FILLS SCREEN STRUCTURE WIHT PROMPT STING FROM TEXT STRUCTURE AT THE APPROPRIATE ROW AND COL WITH THE APPROPRIATE SYMBOL PASSED DOWN IN PRMSYM.

ARGUMENTS:

FLDPNT =	FIELD *
TXTPNT =	TEXT *
PRMSYM =	CHAR

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS
FPCODE	- FORM PROCESSOR RETURN CODES
FPD	- FORM PROCESSOR DATA
FDFEFM	- FDFE FORM DEFINITIONS
FDFE	- FDFE DATA STRUCTURES

```
ROUTINES CALLED:
----------------
  MIN

CALLED DIRECTLY BY:
-------------------
  TRNSTR/FLFLD - FILL FIELD
  TRNSTR       - TRANSLATE STRUCTURE TO SCREEN

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN  - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                   TRNSTR/GARINF
PURPOSE:                GET ARRAY INFORMATION
LANGUAGE:               C
MODULE TYPE:            SUBROUTINE
FUNCTION TYPE:          VOID ()
SOURCE FILE:            TRNSTR
SOURCE FILE TYPE:       .C
HOST:
SUBSYSTEM:              UI
SUBDIRECTORY:           FDFE
DOCUMENTATION GROUP:    FDFE

DESCRIPTION:
------------
  SYNOPSIS
     STATIC VOID GARINF(FLDPNT, WDTH, DPTH, ARWDTH, ARDPTH)
        FIELD           *FLDPNT;
        INT             *WDTH, *DPTH, *ARWDTH, *ARDPTH;


     INPUTS/OUTPUTS:


     INPUTS:
       FLDPNT - POINTER TO ARRAY BEING WORKED ON
       RDONLY - FLAG INDICATING WHETHER IN READ ONLY MODE OR
                     NOT

     OUTPUTS:
       WDTH   - WIDTH OF FIRST MEMBER OF ARRAY
       DPTH   - DEPTH OF FIRST MEMBER OF ARRAY
       ARWDTH - WIDTH OF WHOLE OF ARRAY
       ARDPTH - DEPTH OF WHOLE OF ARRAY

  DESCRIPTION
       THIS MODULE OBTAINS ROW, COL, WIDTH, DEPTH, OF FIRST
                     MEMBER OF ARRAY
       AND THE WIDTH AND DEPTH OF ENTIRE ARRAY AND RETURNS
                     THEM TO CALLER

ARGUMENTS:
----------
  FLDPNT =        FIELD *
  WDTH =        INT *
  DPTH =        INT *
  ARWDTH =        INT *
  ARDPTH =        INT *


INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  FPCODE      - FORM PROCESSOR RETURN CODES
  FPD         - FORM PROCESSOR DATA
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES

ROUTINES CALLED:
----------------
  ABS

CALLED DIRECTLY BY:
-------------------
  TRNSTR/FLFLD - FILL FIELD

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN  - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	VALINP
PURPOSE:	VALIDATE INPUT
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	BOOL ()
SOURCE FILE:	VALINP
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
BOOL VALINP(FDP, DP, EDTTYP, BLNKSTOP)
   FIELD *FDP;
   FIELD *DP;
   INT   EDTTYP;
   BOOL  BLNKSTOP;
```

INPUTS:

```
FIELD *FDP; ** POINTER TO FORM CONTAINING FIELD TO BE
                 VALIDATED
FIELD *DP;  ** POINTER TO FIELD TO BE VALIDATED **
INT   EDTTYP; ** INDICATES THE COMBINATION OF THINGS TO
                 VALIDATE
BOOL  BLNKSTOP; ** TRUE IF CHECKING IS TO STOP ON THE
                 FIRST BLANK FIELD
```

DESCRIPTION

PERFORMS VALIDATION CHECKS ON FIELDS. FDP AND DP INDICATE THE FORM AND FIELD TO BE VALIDATED. EDTTYP INDICATES THE COMBINATION OF THINGS TO BE VALIDATED. THE OBJECTS TO BE VALIDATED ARE CONTAINED IN GLOBAL DATA. IF THE OBJECTS PASS THE VALIDATION CHECKS VALINP RETURNS A TRUE.

ARGUMENTS:

FDP =	FIELD *
DP =	FIELD *
EDTTYP =	INT
BLNKSTOP =	BOOL

INCLUDE FILES:

STDTYP - STANDARD TYPE DEFINITIONS

```
  CTYPE       - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPD         - FORM PROCESSOR DATA
  FPCODE      - FORM PROCESSOR RETURN CODES
  FPPARM      - FORM PROCESSOR PARAMETERS
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES

ROUTINES CALLED:
----------------
  MEMCMP
  SPRINTF
  VALINP/CCKITM - CHECK ITEM
  ABORT
  VALINP/CCKFRM - CHECK FORM
  VALINP/CCKHLP - CHECK HELP
  VALINP/CCKFLD - CHECK FIELD
  VALINP/CCKNAM - CHECK NAME

CALLED DIRECTLY BY:
-------------------
  EDTFLD      - EDIT FIELD
  EDTWHL      - EDIT WHOLE
  GFDINP      - GET FIELD INPUT
  GWHINP      - GET WHOLE INPUT

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                    VALINP/CCKFLD
PURPOSE:                 CHECK FIELD
LANGUAGE:                C
MODULE TYPE:             FUNCTION
FUNCTION TYPE:           BOOL ()
SOURCE FILE:             VALINP
SOURCE FILE TYPE:        .C
HOST:
SUBSYSTEM:               UI
SUBDIRECTORY:            FDFE
DOCUMENTATION GROUP:     FDFE

DESCRIPTION:
------------
  STATIC BOOL CCKFLD(PATH, ARPATH, FLDPTR, DP, FDP)
     PATH PATH[], ARPATH[];
     STRUCT COMINFO *FLDPTR;
     FIELD *DP, *FDP;

  VALIDATE A FIELD.
  CCKFLD (FIELD PATH, ARRAY PATH, POINTER TO DISPLAY, POINTER
                         TO FPD FIELD)

ARGUMENTS:
----------
  PATH =        PATH []
  ARPATH =        PATH []
  FLDPTR =        STRUCT COMINFO *
  DP =        FIELD *
  FDP =        FIELD *


INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  CTYPE       - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPD         - FORM PROCESSOR DATA
  FPCODE      - FORM PROCESSOR RETURN CODES
  FPPARM      - FORM PROCESSOR PARAMETERS
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES


ROUTINES CALLED:
----------------
  MATOI
  VALINP/CCKPRM - CHECK PROMPT
  MIN
  ATOI
  SPRINTF
  MEMCMP
  FNDATT      - FIND ATTRIBUTE
  STRCHR
  STRCMP
  VALINP/CCKRSV - CHECK FOR RESERVED WORD
  STRLEN
  STRSPN
  PUTERR      - PUT ERROR
  ISALPHA
  ESCPY

CALLED DIRECTLY BY:
-------------------
  VALINP      - VALIDATE INPUT

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                  VALINP/CCKFRM
PURPOSE:               CHECK FORM
LANGUAGE:              C
MODULE TYPE:           FUNCTION
FUNCTION TYPE:         BOOL ()
SOURCE FILE:           VALINP
SOURCE FILE TYPE:      .C
HOST:
SUBSYSTEM:             UI
SUBDIRECTORY:          FDFE
DOCUMENTATION GROUP:   FDFE

DESCRIPTION:
------------
  STATIC BOOL CCKFRM(PATH, FRMPTR)
     CHAR PATH[];
     STRUCT FRMINFO *FRMPTR;

  VALIDATE A FORM.
  CCKFRM (PATH TO FORM, POINTER TO DISPLAY FORM)

ARGUMENTS:
----------
  PATH =        CHAR []
  FRMPTR =        STRUCT FRMINFO *


INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  CTYPE       - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPD         - FORM PROCESSOR DATA
  FPCODE      - FORM PROCESSOR RETURN CODES
  FPPARM      - FORM PROCESSOR PARAMETERS
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES


ROUTINES CALLED:
----------------
  SPRINTF
  STRCHR
  MIN
  MEMCMP
  PUTERR      - PUT ERROR
  FNDATT      - FIND ATTRIBUTE
  ESCPY


CALLED DIRECTLY BY:
-------------------
  VALINP      - VALIDATE INPUT
```

```
USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN  - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	VALINP/CCKHLP
PURPOSE:	CHECK HELP
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	BOOL ()
SOURCE FILE:	VALINP
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

```
STATIC BOOL CCKHLP(PATH, HLPPTR)
   PATH PATH;
   STRUCT ITMHELP *HLPPTR;
```

VALIDATE HELP.
CCKHLP(PATH TO FIELD, POINTER TO DISPLAY FOR HELP)

ARGUMENTS:

PATH =	PATH
HLPPTR =	STRUCT ITMHELP *

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS
CTYPE	- **** PURPOSE NOT FOUND BY STRIPPER ****
FPD	- FORM PROCESSOR DATA
FPCODE	- FORM PROCESSOR RETURN CODES
FPPARM	- FORM PROCESSOR PARAMETERS
FDFEFM	- FDFE FORM DEFINITIONS
FDFE	- FDFE DATA STRUCTURES

ROUTINES CALLED:

STRCMP	
STRSPN	
ISALPHA	
STRNCMP	
PUTERR	- PUT ERROR
STRLEN	
STRUPC	
ESCPY	
MEMCMP	
STRCHR	

```
CALLED DIRECTLY BY:
-------------------
  VALINP     - VALIDATE INPUT

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN  - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                   VALINP/CCKITM
PURPOSE:                CHECK ITEM
LANGUAGE:               C
MODULE TYPE:            FUNCTION
FUNCTION TYPE:          BOOL ()
SOURCE FILE:            VALINP
SOURCE FILE TYPE:       .C
HOST:
SUBSYSTEM:              UI
SUBDIRECTORY:           FDFE
DOCUMENTATION GROUP:    FDFE

DESCRIPTION:
------------
  STATIC BOOL CCKITM(PATH, ITMPTR)
     PATH PATH;
     STRUCT ITMCHCK *ITMPTR;

  VALIDATE ITEM DOMAIN TYPE STUFF.
  CCKITM(FIELD PATH, POINTER TO DISPLAY)

ARGUMENTS:
----------
  PATH =       PATH
  ITMPTR =       STRUCT ITMCHCK *


INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  CTYPE       - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPD         - FORM PROCESSOR DATA
  FPCODE      - FORM PROCESSOR RETURN CODES
  FPPARM      - FORM PROCESSOR PARAMETERS
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES


ROUTINES CALLED:
----------------
  ATOI
  ESCPY
  MEMCMP
  PUTERR      - PUT ERROR
  STRCHR


CALLED DIRECTLY BY:
-------------------
  VALINP      - VALIDATE INPUT
```

```
USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN  - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                   VALINP/CCKNAM
PURPOSE:                CHECK NAME
LANGUAGE:               C
MODULE TYPE:            FUNCTION
FUNCTION TYPE:          BOOL ()
SOURCE FILE:            VALINP
SOURCE FILE TYPE:       .C
HOST:
SUBSYSTEM:              UI
SUBDIRECTORY:           FDFE
DOCUMENTATION GROUP:    FDFE

DESCRIPTION:
------------
  STATIC BOOL CCKNAM(FDP, BLNKSTOP)
     FIELD *FDP;
     BOOL BLNKSTOP;

  CHECK FOR DUPLICATE NAMES ON WHLEDT

ARGUMENTS:
----------
  FDP =        FIELD *
  BLNKSTOP =        BOOL


INCLUDE FILES:
--------------
  STDTYP     - STANDARD TYPE DEFINITIONS
  CTYPE      - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPD        - FORM PROCESSOR DATA
  FPCODE     - FORM PROCESSOR RETURN CODES
  FPPARM     - FORM PROCESSOR PARAMETERS
  FDFEFM     - FDFE FORM DEFINITIONS
  FDFE       - FDFE DATA STRUCTURES


ROUTINES CALLED:
----------------
  MEMCMP
  PUTERR     - PUT ERROR
  SPRINTF


CALLED DIRECTLY BY:
-------------------
  VALINP     - VALIDATE INPUT


USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN  - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                  VALINP/CCKPRM
PURPOSE:               CHECK PROMPT
LANGUAGE:              C
MODULE TYPE:           FUNCTION
FUNCTION TYPE:         BOOL ()
SOURCE FILE:           VALINP
SOURCE FILE TYPE:      .C
HOST:
SUBSYSTEM:             UI
SUBDIRECTORY:          FDFE
DOCUMENTATION GROUP:   FDFE

DESCRIPTION:
------------
  STATIC BOOL CCKPRM(POS)
     CHAR POS[];

  CHECK THE FIELD PROMPT LOCATION FOR A LEGAL POSITION.
  CCKPRM(STRING)

ARGUMENTS:
----------
  POS =        CHAR []


INCLUDE FILES:
--------------
  STDTYP     - STANDARD TYPE DEFINITIONS
  CTYPE      - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPD        - FORM PROCESSOR DATA
  FPCODE     - FORM PROCESSOR RETURN CODES
  FPPARM     - FORM PROCESSOR PARAMETERS
  FDFEFM     - FDFE FORM DEFINITIONS
  FDFE       - FDFE DATA STRUCTURES


ROUTINES CALLED:
----------------
  MEMCMP


CALLED DIRECTLY BY:
-------------------
  VALINP/CCKFLD - CHECK FIELD


USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN  - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                   VALINP/CCKRSV
PURPOSE:                CHECK FOR RESERVED WORD
LANGUAGE:               C
MODULE TYPE:            FUNCTION
FUNCTION TYPE:          BOOL ()
SOURCE FILE:            VALINP
SOURCE FILE TYPE:       .C
HOST:
SUBSYSTEM:              UI
SUBDIRECTORY:           FDFE
DOCUMENTATION GROUP:    FDFE

DESCRIPTION:
------------
  STATIC BOOL CCKRSV(FLDNAM)
     CHAR FLDNAM[];

  CHECK THE FIELD NAME AGAINST THE RESERVED WORD LIST.
  CCKRSV(STRING)

ARGUMENTS:
----------
  FLDNAM =       CHAR []


INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  CTYPE       - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPD         - FORM PROCESSOR DATA
  FPCODE      - FORM PROCESSOR RETURN CODES
  FPPARM      - FORM PROCESSOR PARAMETERS
  FDFEFM      - FDFE FORM DEFINITIONS
  FDFE        - FDFE DATA STRUCTURES


ROUTINES CALLED:
----------------
  ESCPY
  STRCMP


CALLED DIRECTLY BY:
-------------------
  VALINP/CCKFLD - CHECK FIELD


USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN  - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	VALINP/CCKVAL
PURPOSE:	CHECK VALUE
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	BOOL ()
SOURCE FILE:	VALINP
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

```
STATIC BOOL CCKVAL(PATH, VALPTR)
   PATH PATH;
   STRUCT ITMVAL *VALPTR;
```

VALIDATE AN EXPRESSION (ACTUALLY DONE BY FLAN).
CCKVAL(FIELD TO PATH, POINTER TO DISPLAY FOR VALUE)

ARGUMENTS:

PATH =	PATH
VALPTR =	STRUCT ITMVAL *

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS
CTYPE	- **** PURPOSE NOT FOUND BY STRIPPER ****
FPD	- FORM PROCESSOR DATA
FPCODE	- FORM PROCESSOR RETURN CODES
FPPARM	- FORM PROCESSOR PARAMETERS
FDFEFM	- FDFE FORM DEFINITIONS
FDFE	- FDFE DATA STRUCTURES

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	VIEW
PURPOSE:	VIEW A FORM
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	CHAR * ()
SOURCE FILE:	VIEW
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
CHAR *VIEW(FORMNAME)
   NAME FORMNAME;
```

INPUTS/OUTPUTS:

INPUTS:

NAME FORMNAME NAME OF THE FORM TO BE VIEWED.

OUTPUTS:

DESCRIPTION

RETURNS STANDARD FORM PROCESSOR ERROR STRINGS OR IF SUCCESSFUL, A NULL POINTER.

ARGUMENTS:

FORMNAME = NAME

INCLUDE FILES:

STDTYP - STANDARD TYPE DEFINITIONS
FPPARM - FORM PROCESSOR PARAMETERS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

ROUTINES CALLED:

ADDFRM

```
  MEMCMP
  SYSMSG
  CLSFRM
  RMVPAG
  GWINDO
  PMSGLS
  OISCR

CALLED DIRECTLY BY:
-------------------
  FDFE        - FORMS DRIVEN FORM EDITOR

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	WARNING
PURPOSE:	ISSUE WARNING MESSAGE
LANGUAGE:	C
MODULE TYPE:	SUBROUTINE
FUNCTION TYPE:	VOID ()
SOURCE FILE:	FLANERR
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FDFE
DOCUMENTATION GROUP:	FDFE

DESCRIPTION:

SYNOPSIS

```
VOID WARNING(S, A, B, C, D, E, F)
   CHAR *S, *A, *B, *C, *D, *E, *F;
```

DESCRIPTION

PRINTS A WARNING MESSAGE ON STDERR

ARGUMENTS:

S =	CHAR *
A =	CHAR *
B =	CHAR *
C =	CHAR *
D =	CHAR *
E =	CHAR *
F =	CHAR *

INCLUDE FILES:

STDTYP - STANDARD TYPE DEFINITIONS

ROUTINES CALLED:

PMSGLS
STRLEN
SPRINTF

CALLED DIRECTLY BY:

CHKFRM - CHECK FORM

USED IN MAIN PROGRAM(S):

CHKFRM - CHECK FORM

FORMS DRIVEN FORM EDITOR Module Documentation

NAME:	WRTEXP
PURPOSE:	WRITE EXPRESSION
LANGUAGE:	C
MODULE TYPE:	FUNCTION
FUNCTION TYPE:	CHAR * ()
SOURCE FILE:	FLANSP
SOURCE FILE TYPE:	.C
HOST:	
SUBSYSTEM:	UI
SUBDIRECTORY:	FE
DOCUMENTATION GROUP:	FDFE/FLAN

DESCRIPTION:

SYNOPSIS

```
CHAR *WRTEXP(EP)
   ENODE *EP;
```

INPUTS:
EP - EXPRESSION TO WRITE

OUTPUTS:
RETURNS A POINTER TO THE WRITTEN EXPRESSION OR NULL
FOR ERRORS

DESCRIPTION
RETURNS A POINTER TO THE CHARACTER STRING REPRESENTING
THE GIVEN
EXPRESSION, OR NULL IF AN ERROR IS DETECTED.

ARGUMENTS:

EP =	ENODE *

INCLUDE FILES:

STDTYP	- STANDARD TYPE DEFINITIONS
STDIO	- **** PURPOSE NOT FOUND BY STRIPPER ****
FPD	- FORM PROCESSOR DATA
RW	- REPORT WRITER DEFINITIONS
FPCODE	- FORM PROCESSOR RETURN CODES

ROUTINES CALLED:

FREE	
WRTEXP	- WRITE EXPRESSION
MEMCPY	
MYALLOC	- MY MALLOC
STRLEN	
SPRINTF	

```
CALLED DIRECTLY BY:
-------------------
  CHKFLD     - CHECK FIELD
  WRTEXP     - WRITE EXPRESSION

USED IN MAIN PROGRAM(S):
------------------------
  CHKFLD     - CHECK FIELD
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                    WRTFDL
PURPOSE:                 WRITE FDL FILE
LANGUAGE:                C
MODULE TYPE:             SUBROUTINE
FUNCTION TYPE:           VOID ()
SOURCE FILE:             WRTFDL
SOURCE FILE TYPE:        .C
HOST:
SUBSYSTEM:               UI
SUBDIRECTORY:            FDFE
DOCUMENTATION GROUP:     FDFE

DESCRIPTION:
------------

  SYNOPSIS
    VOID WRTFDL(FRMPTR, FILPTR)
       FIELD *FRMPTR;
       FILE  *FILPTR;

     INPUTS:
       FIELD *FRMPTR; ** THE LIST OF FORMS FOR WHICH .FDL IS
                         TO BE WRITTEN
       FILE  *FILPTR; ** THE FILE TO WHICH THE FORMS ARE TO BE
                         WRITTEN

  DESCRIPTION
    GIVEN A POINTER TO A LIST OF FORMS (FRMPTR) AND A FILE
                         POINTER (FILPTR),
    THE SOURCE LANGUAGE REPRESENTATION OF THE FPD LIST IS
                         CREATED.

ARGUMENTS:
----------
  FRMPTR =        FIELD *
  FILPTR =        FILE *


INCLUDE FILES:
--------------
  STDTYP      - STANDARD TYPE DEFINITIONS
  STDIO       - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPD         - FORM PROCESSOR DATA


ROUTINES CALLED:
----------------
  FPRINTF
  BLEN
  ESCPY
  STRCMP
  STRNCMP
  WRTFDL/ARYREF - ARRAY REFERENCE
```

```
CALLED DIRECTLY BY:
-------------------
  SAVFLS      - SAVE FDL SOURCE

USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN   - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

FORMS DRIVEN FORM EDITOR Module Documentation

```
NAME:                   WRTFDL/ARYREF
PURPOSE:                ARRAY REFERENCE
LANGUAGE:               C
MODULE TYPE:            SUBROUTINE
FUNCTION TYPE:          VOID ()
SOURCE FILE:            WRTFDL
SOURCE FILE TYPE:       .C
HOST:
SUBSYSTEM:              UI
SUBDIRECTORY:           FDFE
DOCUMENTATION GROUP:    FDFE

DESCRIPTION:
------------
  STATIC VOID ARYREF(ARYDEF, DP)
     CHAR ARYDEF[];
     FIELD *DP;

  CREATES THE FORMS LANGUAGE REPRESENTATION OF AN ARRAY
                     SPECIFICATION
  FROM THE UID.CURFPD->

ARGUMENTS:
----------
  ARYDEF =       CHAR []
  DP =       FIELD *


INCLUDE FILES:
--------------
  STDTYP     - STANDARD TYPE DEFINITIONS
  STDIO      - **** PURPOSE NOT FOUND BY STRIPPER ****
  FPD        - FORM PROCESSOR DATA


ROUTINES CALLED:
----------------
  ABS
  SPRINTF
  STRCAT


CALLED DIRECTLY BY:
-------------------
  WRTFDL     - WRITE FDL FILE


USED IN MAIN PROGRAM(S):
------------------------
  FDFE/MAIN  - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
```

3.10.9 Include File Descriptions

The following list contains a purpose and description of each include file listed in 3.10.4 as specified in the source code. The language it is written in is also given.

FORMS DRIVEN FORM EDITOR Include File Description

```
FILE NAME: FDFE
PURPOSE:   FDFE DATA STRUCTURES
LANGUAGE:  C

DESCRIPTION:
------------

  DESCRIPTION
   MAIN INCLUDE FILE FOR FDFE
```

FORMS DRIVEN FORM EDITOR Include File Descripti^n

FILE NAME: FDFEFM
PURPOSE: FDFE FORM DEFINITIONS
LANGUAGE: C

DESCRIPTION:

FORMS DRIVEN FORM EDITOR Include File Description

```
FILE NAME: FDFEINI
PURPOSE:   FDFE INITIALIZATIONS
LANGUAGE:  C

DESCRIPTION:
------------

  DESCRIPTION
   INITIALIZING INCLUDE FILE FOR FDFE
```

FORMS DRIVEN FORM EDITOR Include File Description

```
FILE NAME: FFFV2
PURPOSE:   FORM FILE FORMAT - VERSION 2
LANGUAGE:  C

DESCRIPTION:
------------

  DESCRIPTION
     RECORD LAYOUTS FOR THE BINARY FORM DEFINITION FILE
```

FORMS DRIVEN FORM EDITOR Include File Description

FILE NAME: FLAN
PURPOSE: FLAN INTERNAL STRUCTURES
LANGUAGE: C

DESCRIPTION:

```
  DESCRIPTION
     AUXILIARY DATA STRUCTURES USED BY FLAN.
```

FORMS DRIVEN FORM EDITOR Include File Description

FILE NAME: FPCODE
PURPOSE: FORM PROCESSOR RETURN CODES
LANGUAGE: C

DESCRIPTION:

FORMS DRIVEN FORM EDITOR Include File Description

FILE NAME: FPD
PURPOSE: FORM PROCESSOR DATA
LANGUAGE: C

DESCRIPTION:

```
  DESCRIPTION
     DATA DEFINITIONS FOR ALL FORM PROCESSOR (INCLUDING
                     MONITER)DATA.
```

FORMS DRIVEN FORM EDITOR Include File Description

```
FILE NAME: FPDINI
PURPOSE:   FPD INITIALIZATION
LANGUAGE:  C

DESCRIPTION:
------------

  DESCRIPTION
     INITIALIZED VERSION OF UID FOR INCLUSION IN MAIN PROGRAM.
```

FORMS DRIVEN FORM EDITOR Include File Description

FILE NAME: FPPARM
PURPOSE: FORM PROCESSOR PARAMETERS
LANGUAGE: C

DESCRIPTION:

DESCRIPTION: THESE DATA DEFINITIONS ARE USED
IN THE FORM PROCESSOR ROUTINES.

FORMS DRIVEN FORM EDITOR Include File Description

FILE NAME: NTM
PURPOSE: NTM INTERFACE INCLUDE FILE
LANGUAGE: C

DESCRIPTION:

DESCRIPTION
INCLUDE FILE FOR NTM INTERFACE

FORMS DRIVEN FORM EDITOR Include File Description

FILE NAME: RW
PURPOSE: REPORT WRITER DEFINITIONS
LANGUAGE: C

DESCRIPTION:

DESCRIPTION

FORMS DRIVEN FORM EDITOR Include File Description

```
FILE NAME: STDTYP
PURPOSE:   STANDARD TYPE DEFINITIONS
LANGUAGE:  C

DESCRIPTION:
------------

  DESCRIPTION
     THIS FILE ENSURES THAT THE FOLLOWING STANDARD TYPES ARE
                    AVAILABLE:
        FLOAT     - SINGLE PRECISION FLOAT
        DOUBLE    - DOUBLE PRECISION FLOAT

        LONG      - 32 BIT (OR LARGER) SIGNED INTEGER
        LBITS     - 32 BITS (OR MORE) FOR BIT MANIPULATION

        INT       - NATURAL SIZE SIGNED INTEGER
        UNSIGNED  - NATURAL SIZE UNSIGNED INTEGER
        BOOL      - NATURAL SIZE LOGICAL (ZERO / NON-ZERO ONLY)

        SHORT     - 16 BIT (OR LARGER) SIGNED INTEGER
        USHORT    - 16 BIT (OR LARGER) UNSIGNED INTEGER
        BITS      - 16 BITS (OR MORE) FOR BIT MANIPULATION

        CHAR      - SINGLE MACHINE CHARACTER (REAL CHARACTERS
                      ALWAYS POSITIVE)
        TINY      - 8 BIT (OR LARGER) SIGNED INTEGER
        UTINY     - 8 BIT (OR LARGER) UNSIGNED INTEGER
        TBITS     - 8 BITS (OR MORE) FOR BIT MANIPULATION
        TBOOL     - 8 BIT (OR LARGER) LOGICAL (ZERO / NON-ZERO
                      ONLY)

        METACHAR  - 16 BIT (OR LARGER) AUGMENTED CHARACTER
                      (SIGNED)

        VOID      - FUNCTION THAT RETURNS NO VALUE

        FORTRAN   - STORAGE CLASS FOR FOREIGN (NON-C) ROUTINES
                      OR C ROUTINES
                    WHICH ARE CALLABLE FROM FOREIGN ROUTINES

     SINCE NOT ALL COMPILERS SUPPORT USHORT, TINY, AND UTINY,
                    THE FUNCTIONS
     USHORT(), TINY(), AND UTINY() SHOULD BE USED WHENEVER
                    REFERENCING THEM.

     IN ADDITION, THE FOLLOWING UTILITY MACROS ARE DEFINED:
        LURSHIFT(N, B) - UNSIGNED LONG RIGHT SHIFT
        MAX(A, B)      - MAXIMUM OF A AND B
        MIN(A, B)      - MINIMUM OF A AND B
```

FORMS DRIVEN FORM EDITOR Include File Description

```
     ABS(A)          - ABSOLUTE VALUE OF A
     STRASN(A, B)    - TRANSPORTABLE A = B FOR STRUCTURES
     NULL            - NULL POINTER VALUE (0)
     TRUE            - 1
     FALSE           - 0
     SUCCESS         - EXIT(SUCCESS) INDICATES SUCCESSFUL
                    COMPLETION
     FAILURE         - EXIT(FAILURE) INDICATES ERRORS

  THE FOLLOWING SYMBOLS SHOULD BE DEFINED BASED ON THE
                    COMPILER BEING USED:
     USHORT  - COMPILER SUPPORTS UNSIGNED SHORT
     TINY    - COMPILER TREATS CHAR AS SIGNED
     UTINY   - CHAR IS SIGNED AND COMPILER SUPPORTS
                    UNSIGNED CHAR
     VOID    - COMPILER SUPPORTS VOID
     FORTRAN - COMPILER SUPPORTS FORTRAN
     STRASN  - DEFINE APPROPRIATE MACRO
     SUCCESS - DEFINE APPROPRIATE VALUE IF NOT 0
     FAILURE - DEFINE APPROPRIATE VALUE IF NOT 1
```

3.10.10 Hierarchy Chart

The following hierarchy charts show the relationships between all of the modules mentioned in the above documentation. A module may call a subroutine several times within its code, but the call will only be shown once as a single relationship on this hierarchy chart. All modules shown at the top of the first page are considered Main Programs as described in section 3.10.1 above.

There is an internal paging scheme as marked by the numbers in the upper right corner of each page. An index after the last page of the chart shows where a routine and its calls are first defined. If a routine has no page reference, it either makes no calls or is an external routine. A continuation box on the end of a tree limb shows where that the tree continues on the page numbered mentioned. A number in a box with a routine name points to the page where the routine is further defined within the hierarchy tree. If there is no number in a box, the routine either makes no calls or is an external routine.

```
                                                              1
      +------+  +------+  +------+  +---------+  +------+
      |CHKFLD|  |CHKFRM|  |CSTASH|  |FDFE/MAIN|  |(CONT)|
      +-----2+  +-----3+  +-----4+  +--------5+  +-----6+


                                                              2
                           +------+
                           |CHKFLD|
                           +--+---+
                              |
   +-------------------+------+-+--------+-------+--------+
   |                   |        |        |       |        |
+--+---+            +--+--+  +--+---+  +-+-+  +--+-+  +---+--+
|FNDATT|            |ERROR|  |MEMSET|  |MAX|  |FREE|  |(CONT)|
+--+---+            +--+--+  +------+  +---+  +----+  +-----7+
   |                   |
   |         +---------+----------+
   |         |         |          |
+--+---+  +--+---+  +--+---+  +---+---+
|STRCMP|  |PMSGLS|  |STRLEN|  |SPRINTF|
+------+  +------+  +------+  +-------+


                                                              3
                            +------+
                            |CHKFRM|
                            +--+---+
                               |
        +---------+---------+--+-----+-------+---------+
        |         |         |        |       |         |
    +---+---+  +--+---+  +--+---+  +-+-+  +--+---+  +--+---+
    |WARNING|  |ADDCHK|  |CHKARY|  |ABS|  |STRLEN|  |(CONT)|
    +------8+  +--+---+  +-----9+  +---+  +------+  +----10+
                  |
            +-----+----+
            |          |
         +--+---+   +--+--+
         |FLDTYP|   |ERROR|
         +------+   +----2+
                                                             4
                          +------+
                          |CSTASH|
                          +--+---+
                             |
                   +---------+----------+
                   |         |          |
                +--+---+  +--+---+  +---+---+
                |STRCPY|  |STRLEN|  |MYALLOC|
                +------+  +------+  +-----16+


                                                             5
                      +---------+
                      |FDFE/MAIN|
                      +----+----+
                           |
   +---------+---------+---+----+--------+---------+
   |         |         |        |        |         |
+--+---+  +--+---+  +--+---+  +-+--+  +--+---+  +--+---+
|INITAL|  |MEMCMP|  |INITFP|  |FDFE|  |TERMFP|  |TRMNAT|
+------+  +------+  +------+  +-+--+  +------+  +------+
                                |
         +--------+--------+----+---+--------+---------+
         |        |        |        |        |         |
      +--+---+  +-+--+  +--+---+  +-+--+  +--+---+  +--+---+
      |RMVPAG|  |VIEW|  |RENAME|  |COPY|  |GETFLS|  |(CONT)|
      +------+  +--11+  +------+  +----+  +----12+  +----13+


                                                             6
      +------+  +------+   +------+   +-----+  +------+
      |(CONT)|  |MAKINT|   |MAKSTR|   |MKPOS|  |EXPAND|
      +-----1+  +--+---+   +--+---+   +--+--+  +----14+
                   |          |          |
                   |          |          |
                   |          |          |
               +---+---+  +---+---+  +---+---+
               |MYALLOC|  |MYALLOC|  |MYALLOC|
               +-----16+  +-----16+  +-----16+
                                                        7
                 +------+
                 |CHKFLD|
                 +--+---+
                    |
  +---------+-------+---+----+---------+---------+
  |         |        |       |         |         |
+--+---+  +--+---+  +-+--+  +--+---+  +--+---+  +--+---+
|(CONT)|  |WRTEXP|  |BLEN|  |MEMCPY|  |SYSMSG|  |(CONT)|
+-----2+  +----15+  +----+  +------+  +------+  +----16+
```

```
                                                        8
                +-------+
                |WARNING|
                +---+---+
                    |
     +--------------+----------+
     |              |          |
  +--+---+      +--+---+   +--+---+
  |PMSGLS|      |STRLEN|   |SPRINTF|
  +------+      +------+   +-------+
```

```
                                                        9
                 +------+
                 |CHKARY|
                 +--+---+
                    |
          +---------++--------+
          |          |        |
    +---+---+    +-+-+    +--+---+
    |MYALLOC|    |ABS|    |STRASN|
    +-----16+    +---+    +------+
```

10

```
                       +-------+
                       |CHKFRM |
                       +--+----+
                          |
   +--------+--------+----+----+--------+---------+
   |        |        |         |        |         |
+--+----+ +-+---+ +--+----+ +--+---+ +--+----+ +--+----+
|(CONT) | |FREE | |FLDTYP | |ERROR | |GFLDPT | |(CONT) |
+------3+ +-----+ +-------+ +-----2+ +--+----+ +-----17+
                                        |
                                        |
                                     +--+----+
                                     |STRCMP |
                                     +-------+
```

11

```
                          +-----+
                          |VIEW |
                          +-+---+
                            |
   +---------+---------+----+----+---------+---------+
   |         |         |         |         |         |
+--+----+ +--+----+ +--+----+ +--+----+ +--+----+ +--+----+
|ADDFRM | |MEMCMP | |SYSMSG | |CLSFRM | |RMVPAG | |(CONT) |
+-------+ +-------+ +-------+ +-------+ +-------+ +-----18+
```

12

```
                         +-------+
                         |GETFLS |
                         +--+----+
                            |
   +---------+---------+----+-----+---------+---------+
   |         |         |          |         |         |
+--+----+ +--+---+ +---+-----+ +---+-----+ +--+----+ +--+----+
|FREBUF | |ESCPY | |SPRINTF  | |STRRCHR  | |STRCAT | |(CONT) |
+--+----+ +------+ +---------+ +---------+ +-------+ +-----19+
   |
   |
+--+----+
|DELFLD |
+-------+
                                                           13
                          +----+
                          |FDFE|
                          +-+--+
                            |
    +---------+---------+---+-----+---------+--------+
    |         |         |         |         |        |
 +--+---+  +--+---+  +--+---+  +--+---+  +--+--+  +--+---+
 |(CONT)|  |EDTMOD|  |UNLINK|  |FCLOSE|  |FOPEN|  |(CONT)|
 +-----5+  +----20+  +------+  +------+  +-----+  +----21+
```

```
                                                           14
                       +------+
                       |EXPAND|
                       +--+---+
                          |
      +---------+--------++------+-------------+
      |         |        |       |             |
   +--+---+  +--+---+  +-+-+  +--+---+  +------+------+
   |RSVATT|  |FNDATT|  |ABS|  |COPFLD|  |EXPAND/FIXFRM|
   +------+  +-----2+  +---+  +------+  +-----------22+
```

```
                                                           15
                        +------+
                        |WRTEXP|
                        +--+---+
                           |
  +--------+---------+-----+----+---------+----------+
  |        |         |          |         |          |
+-+--+  +--+---+  +--+---+  +---+---+  +--+---+  +---+---+
|FREE|  |WRTEXP|  |MEMCPY|  |MYALLOC|  |STRLEN|  |SPRINTF|
+----+  +----15+  +------+  +-----16+  +------+  +-------+
```

16

```
             +------+
             |CHKFLD|
             +--+---+
                |
   +------------+--+----------+
   |               |          |
+--+---+       +---+---+   +--+---+
|(CONT)|       |MYALLOC|   |STRLEN|
+-----7+       +---+---+   +------+
                   |
               +---+-----+
               |         |
            +--+--+   +--+---+
            |FATAL|   |MALLOC|
            +--+--+   +------+
               |
    +----------+----------+
    |          |          |
+---+---+   +--+---+   +--+---+
|SPRINTF|   |STRLEN|   |PMSGLS|
+-------+   +------+   +------+
```

17

```
                  +------+
                  |CHKFRM|
                  +--+---+
                     |
   +---------+------++-------+---------+
   |         |      |        |         |
+--+---+   +-+-+  +-+-+   +--+---+  +--+---+
|(CONT)|   |ABS|  |MAX|   |STRASN|  |FNDATT|
+----10+   +---+  +---+   +------+  +-----2+
```

18

```
                  +----+
                  |VIEW|
                  +-+--+
                   |
   +----------+----+----+----------+
   |          |         |          |
+--+---+   +--+---+  +--+---+   +--+--+
|(CONT)|   |GWINDO|  |PMSGLS|   |OISCR|
+----11+   +------+  +------+   +-----+
                                                        19
                          +-------+
                          |GETFLS|
                          +--+----+
                             |
    +---------+---------+----+----+---------+---------+
    |         |         |         |         |         |
 +--+----+ +--+---+  +--+----+ +-+---+   +--+----+ +--+----+
 |(CONT) | |FOPEN|   |SYSMSG|  |BLEN|    |MEMSET|  |(CONT) |
 +----12+  +------+  +-------+ +-----+   +-------+ +----23+


                                                        20
                          +-------+
                          |EDTMOD|
                          +--+----+
                             |
    +---------+---------+----+----+---------+---------+
    |         |         |         |         |         |
 +--+----+ +--+----+ +--+----+ +--+----+ +--+----+ +--+----+
 |ADDFRM|  |MEMCMP|  |FREBUF|  |PRSCMD|  |CHKPRM|  |(CONT) |
 +-------+ +-------+ +----12+  +----30+  +----26+  +----24+


                                                        21
                          +-----+
                          |FDFE|
                          +-+---+
                             |
    +---------+---------+----+----+---------+---------+
    |         |         |         |         |         |
 +--+----+ +--+----+ +--+----+ +--+----+ +--+----+ +--+----+
 |(CONT) | |STRLEN|  |MEMCPY|  |ACCESS|  |ADDEXT|  |(CONT) |
 +----13+  +-------+ +-------+ +-------+ +----25+  +----26+
```

22

```
                          +-------------+
                          |EXPAND/FIXFRM|
                          +------+------+
                                 |
       +---------+---------+-----+---+---------+---------+
       |         |         |         |         |         |
   +--+---+  +--+---+  +--+---+  +--+---+  +--+---+  +--+---+
   |EXPAND|  |DELFLD|  |RSVATT|  |FNDATT|  |COPFLD|  |STRCMP|
   +----14+  +------+  +------+  +-----2+  +------+  +------+
```

23

```
                         +------+
                         |GETFLS|
                         +--+---+
                            |
        +---------+---------+---------+---------+
        |         |         |         |         |
    +--+---+  +--+---+  +--+---+  +--+---+  +--+---+
    |(CONT)|  |MEMCPY|  |FLANCI|  |FCLOSE|  |(CONT)|
    +----19+  +------+  +--+---+  +------+  +----27+
                            |
                       +----+----+
                       |         |
                  +---+---+  +--+---+
                  |YYPARSE|  |DELFLD|
                  +-------+  +------+
```

24

```
                           +------+
                           |EDTMOD|
                           +--+---+
                              |
       +---------+---------+--+-----+---------+---------+
       |         |         |        |         |         |
   +--+---+  +--+---+  +--+--+  +--+---+  +--+---+  +--+---+
   |(CONT)|  |MEMSET|  |GDATA|  |PMSGLS|  |RMVPAG|  |(CONT)|
   +----20+  +------+  +-----+  +------+  +------+  +----28+
```

25

```
                         +------+
                         |ADDEXT|
                         +--+---+
                            |
             +---------+----+----+----------+
             |         |         |          |
          +--+--+  +---+---+  +--+---+  +---+---+
          |ESCPY|  |STRRCHR|  |STRCAT|  |SPRINTF|
          +-----+  +-------+  +------+  +-------+
```

26

```
                          +----+
                          |FDFE|
                          +-+--+
                            |
   +---------+----------+---+-----+---------+---------+
   |         |          |         |         |         |
+--+---+  +--+---+  +---+---+  +--+---+  +--+---+  +--+---+
|(CONT)|  |LISTIT|  |SPRINTF|  |CHKPRM|  |PRSCMD|  |(CONT)|
+----21+  +----29+  +-------+  +--+---+  +----30+  +----31+
                                  |
                             +----+----+
                             |         |
                          +--+---+  +--+--+
                          |MEMCMP|  |ESCPY|
                          +------+  +-----+
```

27

```
                         +------+
                         |GETFLS|
                         +--+---+
                            |
     +----------------+-----+-----+-------+---------+
     |                |           |       |         |
  +--+---+     +------+------+  +-+-+  +--+---+  +--+---+
  |(CONT)|     |GETFLS/TREEXP|  |MAX|  |STRLEN|  |MALLOC|
  +----23+     +------+------+  +---+  +------+  +------+
                      |
    +---------+-------+-----+------------+
    |         |             |            |
  +-+--+  +---+---+  +------+------+  +--+---+
  |PREC|  |SPRINTF|  |GETFLS/TREEXP|  |STRCAT|
  +-+--+  +-------+  +-----------27+  +------+
    |
    |
    |
  +-+--+
  |PREC|
  +--27+
```

28

```
                          +-------+
                          |EDTMOD |
                          +--+----+
                             |
   +---------+---------+-----+---+---------+---------+
   |         |         |         |         |         |
+--+----+ +--+----+ +--+----+ +--+----+ +--+----+ +--+----+
|(CONT) | |SAVFLS | |DRPFRM | |INSFRM | |LAYOUT | |(CONT) |
+-----24+ +-----32+ +--+----+ +-----33+ +-----34+ +-----35+
                       |
                  +----+----+
                  |         |
               +--+----+ +--+----+
               |GTNMFD | |DELFLD |
               +-----35+ +-------+
```

29

```
                          +-------+
                          |LISTIT |
                          +--+----+
                             |
   +---------+---------+-----+-----+--------+---------+
   |         |         |           |        |         |
+--+----+ +--+----+ +--+----+ +----+----+ +--+----+ +--+----+
|MKTEMP | |STRCPY | |STRCAT | |SPRINTF | |SYSMSG | |(CONT) |
+-------+ +-------+ +-------+ +--------+ +-------+ +-----36+
                                                                      30
                              +-------+
                              |PRSCMD|
                              +--+----+
                                 |
          +---------+---------+----------+----------+
          |         |         |          |          |
      +---+---+ +---+---+ +---+---+ +----+---+ +----+---+
      |STRNCPY| |MEMCMP | |MEMSET | |STRNCMP | |STRLEN  |
      +-------+ +-------+ +-------+ +--------+ +--------+

                                                                      31
                               +----+
                               |FDFE|
                               +-+--+
                                 |
      +---------+--------+-------+---+---------+---------+
      |         |        |           |         |         |
  +---+---+ +---+--+ +---+--+ +------+-+ +-----+--+ +----+---+
  |(CONT) | |GDATA | |OISCR | |PMSGLS  | |PUTATT  | |(CONT)  |
  +----26-+ +------+ +------+ +--------+ +--------+ +----37--+

                                                                      32
                              +-------+
                              |SAVFLS |
                              +--+----+
                                 |
     +---------+---------+-------+----+---------+---------+
     |         |         |            |         |         |
  +--+---+ +---+----+ +--+-----+ +----+---+ +---+---+ +---+---+
  |ESCPY | |SPRINTF | |STRCPY  | |STRRCHR | |STRCAT | |(CONT) |
  +------+ +--------+ +--------+ +--------+ +-------+ +----38-+
                                                            33
                         +------+
                         |INSFRM|
                         +--+---+
                            |
              +---------+---+----+---------+
              |         |        |         |
           +--+---+  +--+--+  +--+---+  +--+---+
           |GTNMFD|  |ESCPY|  |GATDEF|  |MAKFLD|
           +----35+  +-----+  +------+  +------+
```

```
                                                            34
                                     +------+
                                     |LAYOUT|
                                     +--+---+
                                        |
                              +---------+---------+
                              |         |         |
                           +--+---+  +--+---+  +--+---+
                           |SCRMAN|  |MEMCMP|  |EDTFLD|
                           +--+---+  +------+  +----42+
                              |
          +----------------+--+---------+---------+
          |                |            |         |
   +------+------+  +------+------+  +--+---+  +--+---+
   |SCRMAN/CHGPOS|  |SCRMAN/GETROW|  |TRNSCR|  |(CONT)|
   +-----------39+  +------+------+  +----40+  +----41+
                           |
             +---------+---+-----+--------+
             |         |         |        |
          +--+--+  +---+---+  +--+--+  +--+---+
          |ESCPY|  |STRRCHR|  |MATOI|  |STRLEN|
          +-----+  +-------+  +-----+  +------+
```

```
                                                            35
                         +------+
                         |EDTMOD|
                         +--+---+
                            |
   +---------+---------+----+----+---------+---------+
   |         |         |         |         |         |
+--+---+  +--+---+  +--+---+  +--+---+  +--+---+  +--+---+
|(CONT)|  |EDTFLD|  |EDTWHL|  |GTNMFD|  |LISTFM|  |(CONT)|
+----28+  +----42+  +----43+  +--+---+  +----44+  +----45+
                                 |
                        +--------+---------+
                        |        |         |
                     +--+--+  +--+---+  +--+---+
                     |ESCPY|  |STRLEN|  |STRCMP|
                     +-----+  +------+  +------+
```

36

```
                        +-------+
                        |LISTIT|
                        +--+----+
                           |
   +---------+---------+---+-----+---------+---------+
   |         |         |         |         |         |
+--+----+ +--+----+ +--+---+  +--+----+ +--+----+ +--+----+
|(CONT)|  |PRCFIL|  |PDATA|   |ADDFRM|  |MEMCMP|  |(CONT)|
+-----29+ +-----46+ +------+  +-------+ +-------+ +-----47+
```

37

```
                         +----+
                         |FDFE|
                         +-+--+
                           |
            +---------+----+----+---------+
            |         |         |         |
         +--+----+ +--+----+ +--+----+ +--+----+
         |(CONT)|  |MEMCMP|  |ADDFRM|  |MEMSET|
         +-----31+ +-------+ +-------+ +-------+
```

38

```
                        +-------+
                        |SAVFLS|
                        +--+----+
                           |
   +---------+---------+---+-----+---------+---------+
   |         |         |         |         |         |
+--+----+ +--+---+  +--+----+ +--+----+ +--+----+ +--+----+
|(CONT)|  |FOPEN|   |SYSMSG|  |FLANCI|  |WRTFDL|  |(CONT)|
+-----32+ +------+  +-------+ +-----23+ +-----48+ +-----49+
```

39

```
                        +-------------+
                        |SCRMAN/CHGPOS|
                        +------+------+
                               |
       +-------------+---------+-------+-------+--------+
       |             |         |       |       |        |
+------+-------+   +--+---+   +-+-+   +-+-+   +-+-+   +--+---+
|SCRMAN/GETROW|   |GTCPFD|   |MAX|   |MIN|   |ABS|   |(CONT)|
+-----------34+   +------+   +---+   +---+   +---+   +----50+
```

40

```
                       +------+
                       |TRNSCR|
                       +--+---+
                          |
   +--------------+-------+------+----------+----------+
   |              |              |          |          |
+--+---+   +------+-------+   +--+---+   +--+---+   +--+---+
|MEMSET|   |TRNSCR/LDPMINF|   |INSFLD|   |MODFLD|   |(CONT)|
+------+   +------+-------+   +----75+   +----66+   +----51+
                  |
            +-----+----+
            |          |
         +--+---+   +--+--+
         |MEMCPY|   |MITOA|
         +------+   +-----+
```

41

```
                           +------+
                           |SCRMAN|
                           +--+---+
                              |
   +----------+----------+----+-----+----------+----------+
   |          |          |          |          |          |
+--+---+   +--+---+   +--+---+   +--+---+   +--+---+   +--+---+
|(CONT)|   |ADDFRM|   |MEMCMP|   |RMVPAG|   |GETCUR|   |(CONT)|
+----34+   +------+   +------+   +------+   +------+   +----52+
                                                          42
                         +------+
                         |EDTFLD|
                         +--+---+
                            |
   +---------+---------+----+----+---------+---------+
   |         |         |         |         |         |
+--+---+  +--+---+  +--+---+  +--+--+   +--+---+  +--+---+
|ADDFRM|  |MEMCMP|  |RMVPAG|  |GDATA|   |PMSGLS|  |(CONT)|
+------+  +------+  +------+  +-----+   +------+  +----53+
```

```
                                                          43
                         +------+
                         |EDTWHL|
                         +--+---+
                            |
   +---------+---------+----+----+---------+---------+
   |         |         |         |         |         |
+--+---+  +--+---+  +--+---+  +--+---+  +--+---+  +--+---+
|MEMSET|  |CPYFRM|  |FLWHST|  |DRPWHL|  |ADDFRM|  |(CONT)|
+------+  +----64+  +--+---+  +----54+  +------+  +----55+
                       |
                  +----+----+
                  |         |
               +--+---+  +--+---+
               |MEMSET|  |FLSTRC|
               +------+  +---100+
```

```
                                                          44
                         +------+
                         |LISTFM|
                         +--+---+
                            |
   +---------+---------+----+----+---------+---------+
   |         |         |         |         |         |
+--+---+  +--+---+  +--+---+  +--+---+  +--+---+  +--+---+
|MEMSET|  |MEMCPY|  |ADDFRM|  |MEMCMP|  |RMVPAG|  |(CONT)|
+------+  +------+  +------+  +------+  +------+  +----56+
```

45

```
                         +------+
                         |EDTMOD|
                         +--+---+
                            |
              +---------+---+----+---------+
              |         |        |         |
           +--+---+  +--+--+  +--+---+  +--+--+
           |(CONT)|  |OISCR|  |PUTATT|  |PDATA|
           +----35+  +-----+  +------+  +-----+
```

46

```
                         +------+
                         |PRCFIL|
                         +--+---+
                            |
   +---------+---------+----+-----+---------+---------+
   |         |         |          |         |         |
+--+---+  +--+--+  +---+---+  +---+---+  +--+---+  +--+---+
|STRCHR|  |FGETS|  |STRRCHR|  |SPRINTF|  |MEMSET|  |FERROR|
+------+  +-----+  +-------+  +-------+  +------+  +------+
```

47

```
                         +------+
                         |LISTIT|
                         +--+---+
                            |
    +--------+--------+-----+---+---------+---------+
    |        |        |         |         |         |
 +--+---+  +-+--+  +--+---+  +--+---+  +--+---+  +--+---+
 |(CONT)|  |FEOF|  |FCLOSE|  |UNLINK|  |RMVPAG|  |(CONT)|
 +----36+  +----+  +------+  +------+  +------+  +----57+
```

48

```
                          +------+
                          |WRTFDL|
                          +--+---+
                             |
     +--------+--------+-----+--+----------+----------+
     |        |        |        |          |          |
  +---+---+ +--+--+ +--+--+ +--+---+ +---+---+ +--+---+
  |FPRINTF| |BLEN| |ESCPY| |STRCMP| |STRNCMP| |(CONT)|
  +-------+ +----+ +-----+ +------+ +-------+ +----58+
```

49

```
                          +------+
                          |SAVFLS|
                          +--+---+
                             |
   +---------+---------+-----+----+---------+---------+
   |         |         |          |         |         |
+--+---+  +--+---+  +--+---+  +--+---+  +--+---+  +--+---+
|(CONT)|  |REWIND|  |FCLOSE|  |RENAME|  |WRTFRM|  |DELFLD|
+----38+  +------+  +------+  +------+  +------+  +------+
```

50

```
                      +-------------+
                      |SCRMAN/CHGPOS|
                      +------+------+
                             |
        +---------+----------+---------+---------+
        |         |          |         |         |
     +--+---+  +--+---+  +--+---+  +--+---+  +--+---+
     |(CONT)|  |TRNSTR|  |PMSGLS|  |GETCUR|  |MEMCMP|
     +----39+  +----52+  +------+  +------+  +------+
                                                           51
                         +-------+
                         |TRNSCR |
                         +--+----+
                            |
      +------------+--------+-------+-------------+
      |            |                |             |
   +--+---+  +-----+-------+ +------+--------+ +--+----+
   |(CONT)|  |TRNSCR/FLCST | |TRNSCR/PARSCRN | |(CONT) |
   +----40+  +-----+-------+ +-------------59+ +-----60+
                   |
                   |
                   |
                +--+----+
                |MALLOC |
                +-------+


                                                           52
                         +-------+
                         |SCRMAN |
                         +--+----+
                            |
    +---------+--------+----+---+---------+---------+
    |         |        |        |         |         |
 +--+----+ +--+---+ +--+---+ +--+----+ +--+----+ +--+----+
 |(CONT) | |GDATA | |OISCR | |TRNSTR | |PMSGLS | |(CONT) |
 +-----41+ +------+ +------+ +--+----+ +-------+ +-----61+
                                |
                 +-------------++---------------+
                 |             |                |
              +--+----+ +------+--------+ +-----+-------+
              |MEMSET | |TRNSTR/FLPRMPT | |TRNSTR/FLFLD |
              +-------+ +------+--------+ +-----------62+
                               |
                               |
                               |
                             +-+--+
                             |MIN |
                             +----+


                                                           53
                         +-------+
                         |EDTFLD |
                         +--+----+
                            |
   +---------+---------+----+----+---------+---------+
   |         |         |         |         |         |
+--+----+ +--+----+ +--+----+ +--+----+ +--+----+ +--+----+
|(CONT) | |VALINP | |PMSGLC | |CPYFRM | |GNXTFD | |(CONT) |
+-----42+ +-----63+ +-------+ +-----64+ +-----65+ +-----66+
                                                                      54
                                    +-------+
                                    |DRPWHL|
                                    +---+---+
                                        |
    +-----------+-----------+---+-------+----------+-----------+
    |           |           |           |          |           |
+---+---+   +---+---+   +---+---+   +---+--+   +---+---+   +---+---+
|ADDFRM|    |MEMCMP|    |DELFLD|    |GDATA|    |PMSGLS|    |(CONT) |
+-------+   +-------+   +-------+   +------+   +-------+   +-----67+
```

```
                                                                      55
                                    +-------+
                                    |EDTWHL|
                                    +---+---+
                                        |
    +-----------+-----------+---+-----+-----------+-----------+
    |           |           |         |           |           |
+---+---+   +---+---+   +---+--+   +---+---+   +---+---+   +---+---+
|(CONT) |   |MEMCMP|    |GDATA|    |PMSGLS|    |RMVPAG|    |(CONT) |
+-----43+   +-------+   +------+   +-------+   +-------+   +-----68+
```

```
                                                                      56
                                    +-------+
                                    |LISTFM|
                                    +---+---+
                                        |
          +-----------+----------+---------- -+----------+
          |           |          |            |          |
      +---+---+   +---+---+   +--+--+     +---+--+   +---+---+
      |(CONT) |   |PMSGLS|    |OISCR|     |PDATA|    |STRLEN|
      +-----44+   +-------+   +------+    +------+   +-------+
```

57

```
                   +------+
                   |LISTIT|
                   +--+---+
                      |
   +---------+--------++--------+--------+
   |         |         |        |        |
+--+---+  +--+---+  +--+--+  +--+--+  +--+---+
|(CONT)|  |PMSGLS|  |OISCR|  |FOPEN|  |SYSTEM|
+----47+  +------+  +-----+  +-----+  +------+
```

58

```
       +------+
       |WRTFDL|
       +--+---+
          |
   +------+------+
   |             |
+--+---+  +------+------+
|(CONT)|  |WRTFDL/ARYREF|
+----48+  +------+------+
                 |
        +--------+---------+
        |        |         |
      +-+-+  +---+---+  +--+---+
      |ABS|  |SPRINTF|  |STRCAT|
      +---+  +-------+  +------+
```

59

```
                     +--------------+
                     |TRNSCR/PARSCRN|
                     +------+-------+
                            |
       +-------------+------+------+-------------+
       |             |             |             |
+------+-------+  +--+----+  +------+-------+  +--+---+
|TRNSCR/SPSYMB|  |ISSPACE|  |TRNSCR/PARSCRN|  |(CONT)|
+-------------+  +-------+  +------------59+  +----69+
```

60

```
                          +------+
                          |TRNSCR|
                          +--+---+
                             |
     +---------+----------+--+----------+------------+
     |         |          |             |            |
  +--+---+  +--+---+  +---+---+  +------+------+  +--+---+
  |(CONT)|  |MEMCMP|  |ISSPACE|  |TRNSCR/SPSYMB|  |(CONT)|
  +----51+  +------+  +-------+  +-------------+  +----70+
```

61

```
          +------+
          |SCRMAN|
          +--+---+
             |
   +---------+---------+
   |         |         |
+--+---+  +--+---+  +--+--+
|(CONT)|  |PMSGLC|  |PDATA|
+----52+  +------+  +-----+
```

62

```
                         +------------+
                         |TRNSTR/FLFLD|
                         +-----+------+
                               |
       +-------------+---------++--------+------+-------+
       |             |          |        |      |       |
+------+-------+  +--+---+  +---+---+  +-+-+  +-+-+  +--+---+
|TRNSTR/FLPRMPT|  |PMSGLS|  |SPRINTF|  |MIN|  |MAX|  |(CONT)|
+------------52+  +------+  +-------+  +---+  +---+  +----71+
```

63

```
                         +-------+
                         |VALINP|
                         +--+----+
                            |
     +----------+-----------+-+------------+--------+
     |          |             |            |        |
  +--+----+ +---+----+ +------+-------+ +--+---+ +--+----+
  |MEMCMP|  |SPRINTF|  |VALINP/CCKITM|  |ABORT|  |(CONT)|
  +-------+ +--------+ +------------72+ +------+ +-----73+
```

64

```
                         +-------+
                         |CPYFRM|
                         +--+----+
                            |
   +----------+---------+---+----+---------+---------+
   |          |         |        |         |         |
+--+----+ +---+----+ +--+---+ +--+----+ +--+----+ +--+----+
|MEMCMP|  |STRNCMP|  |ESCPY|  |GETFLS|  |GTNMFD|  |MEMCPY|
+-------+ +--------+ +------+ +-----12+ +-----35+ +-------+
```

65

```
                        +-------+
                        |GNXTFD|
                        +--+----+
                           |
               +---------+-+-----------+
               |         |             |
            +--+----+ +--+----+ +------+-------+
            |MEMCMP|  |GTNMFD|  |GNXTFD/NXTFLD|
            +-------+ +-----35+ +------+-------+
                                       |
                                       |
                                +------+-------+
                                |GNXTFD/NXTFLD|
                                +------------65+
```

66

```
                          +-------+
                          |EDTFLD|
                          +--+----+
                             |
   +---------┐   ---------+--+------+----- ---+---------+
   |         |            |         |         |         |
+--+----+ +--+----+    +--+----+ +--+----+ +--+----+ +--+----+
|(CONT) | |CFDINP |    |MODFLD | |INSFLD | |MODFRM | |(CONT) |
+-----53+ +-----74+    +--+----+ +-----75+ +-----76+ +-----77+
                          |
   +---------+---------+--+-----+--------+--------+
   |         |         |        |        |        |
+--+----+ +--+----+ +--+----+ +-+--+  +--+--+  +--+----+
|PMSGLS | |DELFLD | |INSFLD | |FREE|  |MATOI|  |(CONT) |
+-------+ +-------+ +-----75+ +----+  +-----+  +-----78+
```

67

```
                          +-------+
                          |DRPWHL|
                          +--+----+
                             |
     +---------+---------+---+----+---------+---------+
     |         |         |        |         |         |
  +--+----+ +--+----+ +--+--+  +--+----+ +--+----+ +--+----+
  |(CONT) | |RMVPAG | |DISCR|  |MEMSET | |FISTRC | |(CONT) |
  +-----54+ +-------+ +-----+  +-------+ +---100+  +-----79+
```

68

```
                          +-------+
                          |EDTWHL|
                          +--+----+
                             |
    +---------+---------+----+----+---------+---------+
    |         |         |         |         |         |
 +--+----+ +--+----+ +--+----+ +--+----+ +--+----+ +--+----+
 |(CONT) | |GWHINP | |PMSGLC | |MODFRM | |MODWHL | |(CONT) |
 +-----55+ +-----80+ +-------+ +-----76+ +-----81+ +-----82+
```

69

```
        +--------------+
        |TRNSCR/PARSCRN|
        +------+-------+
               |
   +-----------++-----------+
   |            |           |
+--+---+  +-----+------+  +-+-+
|(CONT)|  |TRNSCR/FLCST|  |MIN|
+----59+  +----------51+  +---+
```

70

```
                      +------+
                      |TRNSCR|
                      +--+---+
                         |
   +-------------+-------+---------+------------+
   |             |                 |            |
+--+---+  +------+-------+  +------+------+  +--+---+
|(CONT)|  |TRNSCR/GTFMPMT|  |TRNSCR/GTPINF|  |(CONT)|
+----60+  +------+-------+  +----------83+  +----84+
                 |
                 |
                 |
              +--+--+
              |MITOA|
              +-----+
```

71

```
    +------------+
    |TRNSTR/FLFLD|
    +-----+------+
          |
   +------+------+
   |             |
+--+---+  +------+------+
|(CONT)|  |TRNSTR/GARINF|
+----62+  +------+------+
                 |
                 |
                 |
               +-+-+
               |ABS|
               +---+
```

72

```
              +-------------+
              |VALINP/CCKITM|
              +------+------+
                     |
  +--------+--------++--------+---------+
  |        |        |         |         |
+-+--+  +--+--+  +--+---+  +--+---+  +--+---+
|ATOI|  |ESCPY|  |MEMCMP|  |PUTERR|  |STRCHR|
+----+  +-----+  +------+  +--+---+  +------+
                              |
     +---------+---------+----+----+---------+---------+
     |         |         |         |         |         |
  +--+---+  +--+---+  +--+---+  +--+---+  +--+---+  +--+---+
  |STRCPY|  |STRCAT|  |PUTATT|  |MEMCMP|  |PMSGLC|  |(CONT)|
  +------+  +------+  +------+  +------+  +------+  +----85+
```

73

```
                      +------+
                      |VALINP|
                      +--+---+
                         |
   +-------------+-------+--------+------------+
   |             |                |            |
+--+---+  +------+------+  +------+------+  +--+---+
|(CONT)|  |VALINP/CCKFRM|  |VALINP/CCKHLP|  |(CONT)|
+----63+  +-----------86+  +------+------+  +----87+
                                  |
             +---------+----------+----------+---------+
             |         |          |          |         |
          +--+---+  +--+---+  +---+----+  +---+----+  +--+---+
          |STRCMP|  |STRSPN|  |ISALPHA|  |STRNCMP|  |(CONT)|
          +------+  +------+  +-------+  +-------+  +----88+
```

74

```
                          +------+
                          |GFDINP|
                          +--+---+
                             |
     +--------+---------+----+----+--------+---------+
     |        |         |         |        |         |
  +--+--+  +--+---+  +--+---+  +--+--+  +--+--+  +---+---+
  |PDATA|  |MEMCMP|  |VALINP|  |GDATA|  |OISCR|  |SPRINTF|
  +-----+  +------+  +----63+  +-----+  +-----+  +-------+
```

75

```
                           +-------+
                           |INSFLD |
                           +--+----+
                              |
   +----------+----------+----+-----+----------+----------+
   |          |          |          |          |          |
+--+---+   +--+-----+ +--+-----+ +--+---+   +--+-----+ +--+-----+
|MATOI |   |INSFLD  | |PMSGLS  | |ESCPY |   |GATDEF  | |(CONT)  |
+------+   +------75+ +--------+ +------+   +--------+ +------89+
```

76

```
                           +-------+
                           |MODFRM |
                           +--+----+
                              |
   +----------+---------------+------------+----------+
   |          |               |            |          |
+--+---+   +--+-----+ +-------+-------+ +--+-----+ +--+-----+
|MATOI |   |FIFDST  | |MODFRM/FRETXT  | |SYSMSG  | |(CONT)  |
+------+   +------78+ +-------+-------+ +--------+ +------90+
                              |
                              |
                            +-+---+
                            |FREE |
                            +-----+
```

77

```
                           +-------+
                           |EDTFLD |
                           +--+----+
                              |
   +----------+----------+----+-----+----------+-----------+
   |          |          |          |          |           |
+--+-----+ +--+-----+ +--+---+   +--+-----+ +--+------+ +--+-----+
|(CONT)  | |PUTCUR  | |OISCR |   |PUTATT  | |SPRINTF  | |(CONT)  |
+------66+ +--------+ +------+   +--------+ +---------+ +------91+
```

78

```
                         +------+
                         |MODFLD|
                         +--+---+
                            |
         +---------+--------++---------+--------+
         |         |         |         |        |
      +--+---+  +--+---+  +--+---+  +--+--+  +--+---+
      |(CONT)|  |FIFDST|  |GTFDTX|  |GITMD|  |MEMSET|
      +----66+  +--+---+  +----92+  +---93+  +------+
                   |
               +---+----+
               |        |
            +--+--+  +--+---+
            |ESCPY|  |GATDEF|
            +-----+  +------+
```

79

```
                         +------+
                         |DRPWHL|
                         +--+---+
                            |
             +----------+---+-----+--------+
             |          |         |        |
          +--+---+  +---+---+  +--+--+  +--+---+
          |(CONT)|  |SPRINTF|  |PDATA|  |PUTATT|
          +----67+  +-------+  +-----+  +------+
```

80

```
                         +------+
                         |GWHINP|
                         +--+---+
                            |
   +---------+---------+----+----+---------+---------+
   |         |         |         |         |         |
+--+---+  +--+---+  +--+---+  +--+---+  +--+---+  +--+---+
|ADDFRM|  |MEMCMP|  |MEMCPY|  |RMVPAG|  |VALINP|  |(CONT)|
+------+  +------+  +------+  +------+  +----63+  +----94+
```

81

```
               +-------+
               |MODWHL |
               +---+---+
                   |
    +---------+----+-----+---------+
    |         |          |         |
+---+---+ +---+---+ +----+---+ +---+---+
|MODFLD | |MEMCMP | |SPRINTF | |PMSGLS |
+-----66+ +-------+ +--------+ +-------+
```

82

```
                            +-------+
                            |EDTWHL |
                            +---+---+
                                |
    +---------------+---------+-+-------+--------+----------+
    |               |         |         |        |          |
+---+---+       +---+---+ +---+---+ +---+--+ +---+---+  +---+---+
|(CONT) |       |INSWHL | |VALINP | |OISCR | |PUTATT |  |(CONT) |
+-----68+       +---+---+ +-----63+ +------+ +-------+  +-----95+
                    |
    +---------+-----+----+---------+
    |         |          |         |
+---+---+ +---+----+ +---+---+ +---+---+
|MEMCMP | |SPRINTF | |PMSGLS | |INSFLD |
+-------+ +--------+ +-------+ +-----75+
```

83

```
               +--------------+
               |TRNSCR/GTPINF |
               +-------+------+
                       |
  +------+--------+----+-----+--------------+
  |      |        |          |              |
+-+-+  +-+-+  +---+---+  +---+----+ +-------+------+
|MAX|  |MIN|  |MALLOC |  |ISSPACE | |TRNSCR/SPSYMB |
+---+  +---+  +-------+  +--------+ +--------------+
```

84

```
                     +------+
                     |TRNSCR|
                     +--+---+
                        |
   +-------------+------+---------+------------+
   |             |                |            |
+--+---+  +------+-------+ +------+------+  +--+---+
|(CONT)|  |TRNSCR/MTCHPMT| |TRNSCR/FRLCST|  |(CONT)|
+----70+  +------+-------+ +------+------+  +----96+
                 |                |
                 |                |
               +-+-+            +-+--+
               |MAX|            |FREE|
               +---+            +----+
```

85

```
                      +------+
                      |PUTERR|
                      +--+---+
                         |
               +---------+---------+
               |         |         |
            +--+---+  +--+---+  +--+---+
            |(CONT)|  |PMSGLS|  |PUTCUR|
            +----72+  +------+  +------+
```

86

```
                    +-------------+
                    |VALINP/CCKFRM|
                    +------+------+
                           |
    +---------+--------+---+---+---------+---------+
    |         |        |       |         |         |
+---+---+  +--+---+  +-+-+  +--+---+  +--+---+  +--+---+
|SPRINTF|  |STRCHR|  |MIN|  |MEMCMP|  |PUTERR|  |(CONT)|
+-------+  +------+  +---+  +------+  +----72+  +----97+
```

87

```
                   +------+
                   |VALINP|
                   +--+---+
                      |
      +--------------++---------------+
      |              |                |
   +--+---+  +-------+------+   +------+------+
   |(CONT)|  |VALINP/CCKFLD|   |VALINP/CCKNAM|
   +----73+  +-----------98+   +------+------+
                                      |
                            +---------+-----------+
                            |         |           |
                         +--+---+  +--+---+   +---+---+
                         |MEMCMP|  |PUTERR|   |SPRINTF|
                         +------+  +----72+   +-------+
```

88

```
                     +------+------+
                     |VALINP/CCKHLP|
                     +------+------+
                            |
   +---------+----------+---+-----+---------+---------+
   |         |          |         |         |         |
+--+---+  +--+---+   +--+---+  +--+---+  +--+--+   +--+---+
|(CONT)|  |PUTERR|   |STRLEN|  |STRUPC|  |ESCPY|   |(CONT)|
+----73+  +----72+   +------+  +------+  +-----+   +----99+
```

89

```
                         +------+
                         |INSFLD|
                         +--+---+
                            |
         +----------+-------++-------+----------+
         |          |        |       |          |
      +--+---+   +--+---+  +-+-+  +--+---+   +--+--+
      |(CONT)|   |MAKFLD|  |MAX|  |GTFDTX|   |GITMD|
      +----75+   +------+  +---+  +----92+   +--93+
```

90

```
                         +-------+
                         |MODFRM |
                         +--+----+
                            |
              +---------+---+----+---------+
              |         |        |         |
           +--+----+ +--+---+ +--+----+ +--+----+
           |(CONT) | |ESCPY | |GETLEN | |MALLOC |
           +-----76+ +------+ +-------+ +-------+
```

91

```
                         +-------+
                         |EDTFLD |
                         +--+----+
                            |
   +---------+---------+----+----+---------+---------+
   |         |         |         |         |         |
+--+----+ +--+----+ +--+----+ +--+----+ +--+----+ +--+----+
|(CONT) | |MEMSET | |MEMCPY | |STRLEN | |FLSTRC | |(CONT) |
+-----77+ +-------+ +-------+ +-------+ +----100+ +----101+
```

92

```
                         +-------+
                         |GTFDTX |
                         +--+----+
                            |
     +------------+---------+--+---------+---------+
     |            |            |         |         |
   +-+---+ +------+-------+ +--+----+ +--+----+ +--+---+
   |FREE | |GTFDTX/GTXINF | |MALLOC | |SYSMSG | |ESCPY |
   +-----+ +------+-------+ +-------+ +-------+ +------+
                  |
             +----+----+
             |         |
          +--+----+ +--+---+
          |GETLEN | |MATOI |
          +-------+ +------+
```

93

```
                         +-----+
                         |GITMD|
                         +--+--+
                            |
     +-------+-------+------+--+---------+---------+
     |       |       |         |         |         |
   +-+--+  +-+-+  +--+---+  +--+---+  +--+---+  +--+---+
   |FREE|  |MAX|  |GETLEN|  |MALLOC|  |SYSMSG|  |(CONT)|
   +----+  +---+  +------+  +------+  +------+  +---102+
```

94

```
                         +------+
                         |GWHINP|
                         +--+---+
                            |
    +---------+---------+---+-----+---------+---------+
    |         |         |         |         |         |
 +--+---+  +--+---+  +--+--+  +---+---+  +--+--+   +--+---+
 |(CONT)|  |PUTCUR|  |OISCR|  |SPRINTF|  |GDATA|   |(CONT)|
 +----80+  +------+  +-----+  +-------+  +-----+   +---103+
```

95

```
                         +------+
                         |EDTWHL|
                         +--+---+
                            |
   +----------+---------+---+-----+---------+---------+
   |          |         |         |         |         |
+--+---+  +---+---+  +--+---+  +--+---+  +--+---+  +--+--+
|(CONT)|  |SPRINTF|  |MEMCPY|  |STRLEN|  |FLFMST|  |PDATA|
+----82+  +-------+  +------+  +------+  +---101+  +-----+
                                                            96
                         +------+
                         |TRNSCR|
                         +--+---+
                            |
   +---------+---------+----+----+---------+---------+
   |         |         |         |         |         |
+--+---+  +--+---+  +--+---+  +--+---+  +--+---+  +--+---+
|(CONT)|  |MODFRM|  |DELFLD|  |GTCPFD|  |FLSTRC|  |(CONT)|
+----84+  +----76+  +------+  +------+  +---100+  +---104+


                                                            97
                      +-------------+
                      |VALINP/CCKFRM|
                      +------+------+
                             |
                   +---------+---------+
                   |         |         |
                +--+---+  +--+---+  +--+--+
                |(CONT)|  |FNDATT|  |ESCPY|
                +----86+  +-----2+  +-----+


                                                            98
                     +-------------+
                     |VALINP/CCKFLD|
                     +------+------+
                            |
        +------------+------+----+------+--------+
        |            |           |      |        |
     +--+--+  +------+------+  +-+-+  +-+--+  +--+---+
     |MATOI|  |VALINP/CCKPRM|  |MIN|  |ATOI|  |(CONT)|
     +-----+  +------+------+  +---+  +----+  +---105+
                     |
                     |
                     |
                  +--+---+
                  |MEMCMP|
                  +------+
```

99

```
      +-------------+
      |VALINP/CCKHLP|
      +------+------+
             |
   +---------+---------+
   |         |         |
+--+----+ +--+----+ +--+----+
|(CONT) | |MEMCMP|  |STRCHR|
+-----88+ +-------+ +-------+
```

100

```
                    +-------+
                    |FLSTRC|
                    +--+----+
                       |
    +---------+--------++--------+--------+
    |         |         |        |        |
+---+----+ +--+----+ +--+----+ +-+--+  +--+----+
|SPRINTF|  |MEMSET|  |MEMCPY|  |BLEN|  |STRCPY|
+--------+ +-------+ +-------+ +----+  +-------+
```

101

```
                   +-------+
                   |EDTFLD|
                   +--+----+
                      |
   +---------+--------++--------+---------+
   |         |         |        |         |
+--+----+ +--+----+ +--+---+ +--+----+ +--+----+
|(CONT) | |DELFLD|  |PDATA|  |GTCPFD|  |FLFMST|
+-----91+ +-------+ +------+ +-------+ +--+----+
                                          |
                                     +----+----+
                                     |         |
                                 +---+----+ +--+----+
                                 |SPRINTF|  |MEMSET|
                                 +--------+ +-------+
                                                         102
                         +-----+
                         |GITMD|
                         +--+--+
                            |
     +---------+--------+---+----+-------+--------+
     |         |        |        |       |        |
  +--+---+  +--+--+  +--+---+ +--+--+  +-+--+  +--+---+
  |(CONT)|  |ESCPY|  |MEMDGT| |MATOI|  |BLEN|  |(CONT)|
  +----93+  +-----+  +------+ +-----+  +----+  +---106+
```

```
                                                         103
                          +------+
                          |GWHINP|
                          +--+---+
                             |
                   +---------+---------+
                   |         |         |
                +--+---+  +--+---+  +--+--+
                |(CONT)|  |PUTATT|  |PDATA|
                +----94+  +------+  +-----+
```

```
                                                         104
                         +------+
                         |TRNSCR|
                         +--+---+
                            |
   +---------+---------+----+----+---------+--------+
   |         |         |         |         |        |
+--+---+  +--+--+  +---+---+  +--+---+  +--+---+ +--+---+
|(CONT)|  |MITOA|  |SPRINTF|  |MEMCPY|  |STRLEN| |FLFMST|
+----96+  +-----+  +-------+  +------+  +------+ +---101+
```

105

```
                     +-------------+
                     |VALINP/CCKFLD|
                     +------+------+
                            |
   +----------+---------+---+-----+---------+---------+
   |          |         |         |         |         |
+--+---+  +---+---+  +--+---+  +--+---+  +--+---+  +--+---+
|(CONT)|  |SPRINTF|  |MEMCMP|  |FNDATT|  |STRCHR|  |(CONT)|
+----98+  +-------+  +------+  +-----2+  +------+  +---107+
```

106

```
                         +-----+
                         |GITMD|
                         +--+--+
                            |
          +---------+-------+-+---------+-------+
          |         |         |         |       |
       +--+---+  +--+---+  +--+---+   +-+-+  +--+---+
       |(CONT)|  |MEMSET|  |MEMCPY|   |MIN|  |MEMCMP|
       +---102+  +------+  +------+   +---+  +------+
```

107

```
                     +-------------+
                     |VALINP/CCKFLD|
                     +------+------+
                            |
     +---------+------------++-------------+---------+
     |         |             |             |         |
  +--+---+  +--+---+  +------+-------+  +--+---+  +--+---+
  |(CONT)|  |STRCMP|  |VALINP/CCKRSV|  |STRLEN|  |(CONT)|
  +---105+  +------+  +------+-------+  +------+  +---108+
                             |
                         +---+-----+
                         |         |
                      +--+--+  +--+---+
                      |ESCPY|  |STRCMP|
                      +-----+  +------+
```

108

```
                +-------------+
                |VALINP/CCKFLD|
                +------+------+
                       |
   +---------+---------+----------+---------+
   |         |         |          |         |
+--+---+  +--+---+  +--+---+  +---+---+  +--+--+
|(CONT)|  |STRSPN|  |PUTERR|  |ISALPHA|  |ESCPY|
+---107+  +------+  +----72+  +-------+  +-----+
```

PMSGLS
PRCFIL...........46
PREC.............27
PRSCMD...........30
PUTATT
PUTCUR
PUTERR...........72
RENAME
REWIND
RMVPAG
RSVATT
SAVFLS...........32
SCRMAN...........34
SCRMAN/CHGPOS....39
SCRMAN/GETROW....34
SPRINTF
STRASN
STRCAT
STRCHR
STRCMP
STRCPY
STRLEN
STRNCMP
STRNCPY
STRRCHR
STRSPN
STRUPC
SYSMSG
SYSTEM
TERMFP
TRMNAT
TRNSCR...........40
TRNSCR/FLCST.....51
TRNSCR/FRLCST....84
TRNSCR/GTFMPMT...70
TRNSCR/GTPINF....83
TRNSCR/LDPMINF...40
TRNSCR/MTCHPMT...84
TRNSCR/PARSCRN...59
TRNSCR/SPSYMB
TRNSTR...........52
TRNSTR/FLFLD.....62
TRNSTR/FLPRMPT...52
TRNSTR/GARINF....71
UNLINK
VALINP...........63
VALINP/CCKFLD....98
VALINP/CCKFRM....86
VALINP/CCKHLP....73
VALINP/CCKITM....72
VALINP/CCKNAM....87
VALINP/CCKPRM....98
VALINP/CCKRSV...107
VIEW.............11
WARNING...........8
WRTEXP...........15
WRTFDL...........48
WRTFDL/ARYREF....58
WRTFRM
YYPARSE

3.11 Program Listings Comments

This information is contained in the Module Descriptions in section 3.10.

SECTION 4

QUALITY ASSURANCE PROVISIONS

4.1 Introduction and Definitions

"Testing" is a systematic process that may be preplanned and explicitly stated. Test techniques and procedures may be defined in advance, and a sequence of test steps may be specified. "Debugging" is the process of isolation and correction of the cause of an error.

"Antibugging" is defined as the philosophy of writing programs in such a way as to make bugs less likely to occur and when they do occur, to make them more noticeable to the programmer and the user. In other words, as much error checking as is practical and possible in each routine should be performed.

4.2 Computer Programming Test and Evaluation

The quality assurance provisions for test consists of the normal testing techniques that are accomplished during the construction process. They consist of design and code walk-throughs, unit testing, and integration testing. These tests are performed by the design team. Structured design, design walk-through and the incorporation of "antibugging" facilitate this testing by exposing and addressing problem areas before they become coded "bugs."

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